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ABSTRACT

Administrative aspects of the Oklahoma speech and hearing program are described, including state requirements, school administrator role, and organizational and operational procedures. Information on speech and language development and remediation covers language, articulation, stuttering, voice disorders, cleft palate, speech improvement, cerebral palsy, and aphasia. Auditory disorders are considered; forms used in the program are appended. (GD)

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A RESOURCE MANUAL FOR SPEECH AND HEARING THERAPY PROGRAMS IN OKLAHOMA

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Revised Edition

1969

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THE RESOURCE MANUAL FOR SPEECH AND HEARING THERAPY PROGRAMS IN OKLAHOMA

THE OKLAHOMA STATE DEPARTMENT OF EDUCATION

D. D. CREECH, Superintendent

FOREWARD

This is an increasingly scientific age. It is an age of intense competition, bringing with it strains upon human relations and demanding higher social and professional skills. It is an age which will tolerate less and less of anything that hinders smooth and efficient relations.

Speech is the channel through which we constantly clarify our own ideas and beliefs through communication with others and equally important, with ourselves, and through which we attempt to influence one another. A disorder which interferes with communication can seriously interfere with one's social, emotional, educational, and economic adjustment. The responsibility of the speech therapist's functioning in the schools is to help the pupils having speech problems to achieve better communication. By doing this, they may be able to realize the greatest success which their capabilities will permit with a maximum of satisfaction to themselves, a maximum benefit to society, and a minimum of friction and tension.

The manual, Correcting Communication Disorders, is a compilation of information designed to assist administrators and therapists in remediation of communication disorders among elementary and secondary school pupils of Oklahoma. It is designed to stimulate and guide a high level of professional performance and assist in the systematizing of procedures where desirable.

D. D. Creech

D. D. Creech
State Superintendent

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Erlene Downing
Consultant
Speech and Hearing

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INTRODUCTION

INTRODUCTION

PHILOSOPHY OF THE SPEECH AND HEARING PROGRAM

One aspect of the total development of a child is the language he uses to communicate with others. A disorder which interferes with communication can seriously interfere with one's social, emotional, educational, and economic adjustment.

In order to understand the special problems a child encounters in the development of communication skills, one must be cognizant of the fact that speech is a learned behavior. How early and how well this development progresses is determined by such factors as hearing, physical condition, motivation, and emotional development.

The responsibility of the educational force is to help the pupils having speech problems to achieve better communication so that they may be able to realize the greatest success which their capabilities will permit with a maximum of satisfaction to themselves, a maximum benefit to society, and a minimum of friction and tension.

The Oklahoma State Department of Education encourages local units to establish programs of speech and hearing therapy to fulfill the purposes inherent in its philosophy.

The purposes of the Speech and Hearing Program of the State of Oklahoma are:

> To identify children with speech and hearing disorders
>
> To provide therapeutic services based upon appraisal and diagnosis
>
> To provide consultative services to teachers helping children adjust to and compensate for their deficient speech and hearing

Local boards of education have employed speech and hearing therapists to provide the essential diagnostic and therapeutic services for children who have these problems. There is no one right way to establish a speech and hearing program. It must be tailored to the policies of the local school system, the needs of the individual child, the community situation, the capabilities of the staff and the resources of the school system.

This resource manual was compiled by speech therapists currently employed in the State of Oklahoma. A variety of viewpoints and theories are represented, but all are predicated upon the basic principles of learning.

PURPOSE OF THE RESOURCE MANUAL

The field of public school speech therapy was first furrowed in 1949 in Oklahoma City. Four therapists were employed initially. This program has now grown to a total of sixteen. In 1968-69, there were ninety-two therapists serving 8,193 children throughout the State.

This manual is compiled as a guide for initiating speech therapy programs and as an aid to existing programs. It includes suggestions for administration of the program, operational procedure, a discussion of normal speech development, descriptions of various speech disorders and bibliographies to aid further research of each topic.

The therapists employed in Oklahoma represent training and experience from many institutions and educational systems. These views are compiled by the workshop committee as a means of enriching and strengthening the existing programs.

Speech pathology as a dynamic science is constantly growing and changing. Because of this, the manual is so designed to permit additions and deletions as the needs arise.

II

ADMINISTRATION OF A SPEECH AND HEARING PROGRAM

ADMINISTRATION OF A SPEECH AND HEARING PROGRAM

STATE REQUIREMENTS AND ORGANIZATIONAL PROCEDURE

Legal Considerations: Article 13 of The Oklahoma School Code is the section of the Law that pertains to the education of exceptional children. (See Bulletin S.E. No. 7 for complete law). Included in the category of exceptional children are those with speech dysfunctions. The Law is permissive, authorizing a district or group of districts to provide speech therapy for those children needing such services. Children may receive services if they are four (4) years of age as of the first day of November and are bona fide residents of the state.

Under authority given in the Law the Board of Education established the following regulations for Certification of Speech Therapists:

REQUIREMENTS FOR CERTIFICATION

Requirements for the Standard Teaching Certificate

1. All general requirements.
2. A bachelor's degree from an institution approved for teacher education based upon the completion of a program approved by the State Board of Education for the education of teachers of physically handicapped and slow learning children in the elementary and secondary schools, including:
    a. A minimum of fifty semester hours in general education designed to develop a broad cultural background with work in at least six of the following (1) English (oral English, written English, and literature), (2) social studies, (3) health and physical education, (4) science, (5) mathematics, (6) psychology, (7) foreign language, (8) fine arts, and (9) practical arts.

    b. A minimum of twenty-one semester hours in professional education, including at least nine semester hours in student teaching, methods, and materials.

    c. A minimum of twenty-four semester hours of college credit in Special Education subjects.

Requirements for the Provisional Teaching Certificate

1. All general requirements.
2. A bachelor's degree from an approved college or university with the following minimum requirements.
    a. A minimum of fifty semester hours of college credit in general education designed to develop a broad cultural background.

   b. A minimum of fifteen semester hours of college credit in professional education, including student teaching, methods, and materials.

   c. A minimum of sixteen semester hours of college credit in Special Education subjects.

Requirements for the Temporary Teaching Certificate

1. All general requirements.

2. A bachelor's degree from an approved college or university with the following minimum requirements.

   a. A minimum of forty semester hours of credit in general education designed to develop a broad cultural background.

   b. A minimum of twelve semester hours of credit in professional education, including student teaching, methods, and materials.

   c. A minimum of eight semester hours of college credit in Special Education subjects.

Conversion Program for Certification in Special Education

Since one of the chief sources of special education teachers is the experienced and qualified teachers from the regular elementary and secondary classrooms, it becomes necessary to develop a realistic and workable plan for the certification of such teachers as they transfer from regular teaching to the field of special education. Therefore in March, 1954, the State Board of Education, upon the recommendation of the Oklahoma Commission on Teacher Education and Certification, adopted a five year conversion program for the certification of such persons. This program is not planned to replace regular certification based upon a four-year under-graduate program of preparation in an approved Oklahoma institution, but it is designed to facilitate the transfer of fully qualified regular classroom teachers to the special education field.

Certification under the conversion program is provided in the following special education areas: (1) speech correction, (2) educable mentally handicapped, (3) physically handicapped, and (4) sight conservation. A general special education certificate will be granted to a teacher meeting the certification requirements under the conversion program in any one of these special education areas.

To be eligible for certification under the conversion program an applicant must meet the following general requirements: (1) hold not less than a bachelor's degree, (2) meet the professional and general education requirements for the standard teaching certificates, and (3) have not less than two years teaching experience. In addition to meeting these general requirements, a definite pattern of preparation must be completed for certification in the respective areas. It should be noted that all certificates are issued upon recommendation of the preparing institutions and their requirements supersede the following minimum requirements.

Speech Correction

A minimum of 20 semester hours is required in special preparation for speech correction. These shall include:

1. A course in phonetics or voice science.
2. A course in the principles of audiometry.
3. Three courses in speech correction and/or speech pathology, including one course in supervised clinical practice.
4. An introductory course in the study of exceptional children.
5. A course in the teaching of speech reading.

Courses offered as a part of the conversion program for special education teachers should, in the prescribed areas, provide the experienced teacher with the following basic understandings, skills, and experiences:

1. A philosophy of education which also includes the exceptional child.
2. A knowledge of the history of the education of exceptional children.
3. A knowledge of the extent of handicapping conditions among children of school age.
4. Descriptions of the conditions which make children exceptional.
5. Provisions for exceptional children under the OKLAHOMA SCHOOL CODE.
6. Experiences with exceptional children through field trips to observe them.
7. Basic knowledge of the methods of organization to meet the educational needs of retarded children.
8. Methods of testing, diagnosis, and classification of retarded children.
9. Specific curriculum development for younger and older retarded children.
10. Guidance, particularly vocational guidance of retarded children.
11. Skills in the utilization of arts and crafts in the teaching of retarded children.
12. Techniques in teaching reading to children who are both educationally and mentally retarded.
13. Acquaintance with the various types of speech defects and the ability to deal with some of the simple types of articulatory disorders.

ORGANIZATIONAL PROCEDURES

Full knowledge of the importance of speech and hearing has stimulated a progressive movement for providing these services in the public schools. Such services provide for identification, assessment and therapy for individuals handicapped by disorders of communication. Speech and hearing therapists have been employed by many local boards of education to assume these responsibilities. In order to function effectively, the therapist must have an awareness of the total school philosophy and of the goals and principles related to the learning process, including readiness, motivation, performance and application. His specific skills and professional identity should remain primarily that of the specialist offering services to children with significant speech and hearing disorders.

Important factors involved in setting up a therapy program:

1. Number of schools to be served
2. Case load - minimum and maximum
3. Time for activating and concluding services
4. Time spent by the therapist in each school
5. Length and frequency of therapy sessions
6. Method of referral and screening procedure
7. Travel time of therapist involved between schools
8. Time allotted for records, consultation, and staffing
9. Types and severity of problems
10. Availability of other services for correction

School Scheduling: In planning the schedule for a school, the therapist should confer with the principal to determine the acceptability of the time assigned. The various programs and schedules of the school should be considered. Once the schedule has been established, the therapist normally follows a regular schedule.

A therapist may be assigned one school as a base school but usually services several schools. The base school may serve as the office if such is not provided at the Administrative Service Center. It should allow space and an environment where materials and equipment may be kept, testing may be carried on, conferences held with parents and file cabinets provided for records.

Itinerant scheduling is designed to provide continuous, ongoing therapeutic service for the entire school year to the assigned schools. The therapist serves these assigned schools more than once a week. The distribution of time depends upon the number of schools the therapist must service.

There are an infinite variety of systems of scheduling which are more intensive in nature than the twice a week system, but they vary to such an extent that they cannot be lumped together under a single term. The twice a week system appears to be the preferred scheduling method.

Possible schedules include two examples:

EXAMPLE I - 5 SCHOOLS

	M	T	W	Th	F
A.M. Schools	A	C	A	C	E
P.M. Schools	B	D	B	D	*Half-day

EXAMPLE II - 3 SCHOOLS

	M	T	W	Th	F
A.M. Schools	A	B	C	C	B
P.M. Schools	C	C	A	B	*Half-day

*Coordination Time

One-Half Day Coodination Time: Coordination time or office time is that one-half day designated for the therapist to work on records and reports, conduct parent conferences, consult with administrators and special education personnel, advise or consult on speech improvement, and administer diagnostic evaluations. It is definitely not a luxury but an integral and necessary part of the therapy program. It should be recognized and maintained as such by the therapist and school administrators. Most therapists recognize that it is not coffee time, time for personal business, nor time for social visits. The few therapists who have viewed it as such have made it difficult for those professional therapists who have used the time to the advantage of the program. It is a factor such as this released time that determines whether a therapist finds professional satisfaction in the schools because he can function as a speech therapist or whether the school environment seems only to offer a succession of problems without the time necessary to work on their solutions. All programs should be operating on four and one-half (4½) days of therapy with students and one-half (½) day for coordination.

Professional Responsibility: Attendance at the Oklahoma State Speech and Hearing Meetings offer professional stimulation and demand the active support of the persons engaged in speech and hearing services. These meetings afford one the opportunity for the exchange of ideas with those in one's more immediate environment and often the chance to hear invited speakers from other localities and other disciplines as well as learn about research one's colleagues are doing.

The Oklahoma Speech and Hearing Association publishes a newsletter which gives pertinent information about the happenings of our profession state-wide. The address for contact with this organization is OSHA, P.O. Box 53217, State Capitol Station, Oklahoma City, Oklahoma, 73105.

Related organizations have much to offer. Many therapists find it worthy to align themselves with and attend meetings of associations of related disciplines such as The Council for Exceptional Children and others. Such affiliations aid in intergroup communication and understanding.

Case Load: Once the initial screening has been completed, determining the size of the case load is greatly simplified. Needless to say it would be impossible for the therapist to work with all of the children placed on the list, therefore, priority must be given to these selected for active therapy and a list devised for those waiting for therapy. State or local requirements often mandate what the case load should be for school programs. In this instance the State Special Education Section requires that the case load may range from the minimum load of 75 to the maximum of 100. The Consultant of speech and hearing therapy also recommends that a beginning therapist limit his case load the first year to the minimum number of 75. Also recommended is the selection of students from the upper elementary levels for the correction of their speech before entering junior high and high schools. This is imparative due to the attitude of the student about himself and also very few junior high and high schools offer speech therapy services.

ROLE OF THE SCHOOL ADMINISTRATOR

EDUCATIONAL GOALS

The school's commitment to education embraces an ideal of the best education possible for every citizen including children with communication disorders. This commitment includes an interest in the quantity and quality of education at all levels. It encompasses achieving competence in skills, e.g.: reading and arithmetic, as well as general competence such as ability to work cooperatively towards group goals, development of problem-solving skills, flexibility in behavior and thought, and creativity. The effective school is always concerned with the promotion of physical and mental health as well as satisfying human relationships in a setting of moral and ethical values. Its teaching must be based upon the best that is known about human development and the understanding and application of learning concepts.

While the common characteristics of people make a community possible, it is their uncommon qualities that make it better. Leadership, variety, innovation, and progress, to a great extent, come only from individuality. As a part of our commitment to the educative process of children our educational purpose must be understood in the broad framework of our convictions concerning the worth of the individual and the importance of individual fulfillment.

The administrator or superintendent of schools is usually the secretary and executive officer of the board. He executes the policies formulated and adopted by the board. Ideally, he is the educational leader in the community. He should provide leadership in facing and solving problems in building an effective school system. The administrator must be efficient in making decisions, organizing, planning, communicating, influencing, coordinating, and evaluating the many aspects of the educational process.

Leadership and cooperation from school administrators and supervisors are extremely crucial to the success and effectiveness of the speech and hearing program.

The Role of the Principal: The principal is the coordinator of all activities within a building, and the speech and hearing program is dependent upon proper channeling and coordination with other activities. Not only should the principal provide suitable and satisfactory working quarters for the therapist, but he should assist with the interpretation of the program in order to bring about understanding and acceptance of the speech and hearing program by the school faculty.

The principal may give support to the speech and hearing program by:

Providing exclusive use of the assigned room on the days scheduled for speech therapy, as well as providing certain basic materials, equipment, and furniture

Working with the therapist in setting up a schedule

Providing access to files where data regarding the children's family, background, and scholastic records are kept

Assisting in arranging for medical and/or psychological studies of children recommended for such study by the therapist

Notifying the therapist in advance about any activities which prevent pupils from attending speech sessions (The therapist can then use the time for parent conferences or individual help for special cases)

Arranging for the therapist to speak at faculty and at PTA meetings

Discussing with the classroom teachers their role in the speech and hearing therapy program

Providing an opportunity for therapists and teachers to confer

Arranging for teachers to visit the speech and hearing sessions which their pupils attend

Visiting the speech and hearing sessions in order to understand the procedures used for helping children with speech and hearing disorders

Urging the speech therapist to attend local, state, and national conferences to increase professional conferences

Encouraging the speech therapist to meet with parent groups. Helping to maintain the highest standards in the speech and hearing program is the most effective way to maintain acceptance of the program

The Role of the Classroom Teacher: Stimulating the child to improve his speech and language and incorporating well-planned objectives for speech and language development in classroom curricula are vital goals the classroom teacher should seek.

Appropriate times for scheduling children in the therapy sessions should be arranged as a cooperative endeavor between the classroom teacher and the speech therapist. If possible, students should be scheduled for speech therapy sessions so that they can continue to participate in the major school activities. Still, if the child has a severe handicap, speech therapy may be more valuable to him than any other school subject or activity scheduled at a conflicting time. The effective therapist profits from valuable information furnished by the classroom teacher. In turn, the teacher may integrate suggestions given by the speech therapist into the child's daily experiences. The following suggestions may be helpful to the classroom teacher who is effectively involved in a speech therapy program:

Accept the child and help his classmates accept him

Make sure that the classroom invites communication

Foster good relationships among the children

Be cooperative

Take the necessary steps to make his own speech and voice worthy of imitation

Hear accurately the speech errors his children make

Have accurate knowledge of how the sounds of our speech are produced

Create a good speech environment for speech and language improvement

Be cognizant of the values of speech and hearing services

Be able to identify students in his class who need the speech clinician's service

Understand normal speech and language development and concepts

Be well informed on how to incorporate the objectives of the speech and language program with the objectives of the regular classroom curricula

FACILITIES - THE THERAPY ROOM

Space is at a premium in public school plants all over the country with our rapidly expanding school population. Speech therapy is only one of many special services in competition for available work space. Therapists work in every room and space imaginable in the schools. Usually the attitude of the therapist is to choose a less desirable location than perhaps the lounge and one that is free of interruptions.

The therapist should take the initiative to secure the best available working area. The school administrator should be informed if physical facilities are unsatisfactory. When new school buildings are being planned it is important to discuss physical facilities with the architect as well as the board of education. The therapy room should be centrally located, easily accessible to classrooms, and relatively quiet from extraneous noises.

Space: The clinical speech room should contain a minimum of 150 square feet as this is the smallest room that will comfortably accomodate a therapist and a group of at least six children. Movement is restricted and activities must be limited if the room contains less than this space. A speech room that is designed for a new school should contain at least 200 square feet of floor space. Vacant classrooms are sometimes adapted for speech therapy. Hallways, stages, cafeterias, teacher's lounges and storage rooms are not satisfactory areas for instructional purposes.

Lighting and Ventilation: The room should be well lighted. It should be properly heated and should contain a thermostat to regulate the heat. The room must have at least one electrical outlet.

Noise: The room should be located in an area where extraneous noise is at a minimum; away from playground, street, band, duplicating machine, gymnasium and exit rooms to outside.

Furnishings: The furniture should be appropriate for children. An adjustable round or rectangular table and chairs, chalkboard, flannel board, wall-mirror (securely mounted), clock, bookshelves, file cabinets with locks, and a teacher's desk with an appropriate chair.

Equipment and Materials: Monies should be allocated to purchase supplies each school year. Some therapists desire very little equipment and very few materials. Some therapists do their best therapy with only a pencil, paper, chalk and chalkboard, or with a mirror, but most therapists need much more equipment and a variety of materials.

Until recently there has been very little material that has been designed specifically for clinical speech work. However, the picture is rapidly changing and at present, there are some very good materials available. The progressive speech therapist will experiment with what is available, will search for new materials that can be used effectively, and design new materials for specific purposes. Choose materials that are basically speech centered. Certain games can be used during therapy if they are speech centered. Speech therapists working in the schools are professional people, but they should never become professional game players.

Some of the most important items of equipment for initiating a program are as follows:

Portable pure tone screening and threshold audiometer

Good tape recorder with an adequate number of tapes

Pen flashlight - a supply of tongue depressors - a hand mirror

Durable carrying case for transporting materials

Materials suitable for constructing other materials - scissors, construction paper, etc.

Flannel board

The selection of equipment such as teaching machines (Phonic mirror, Echorder, Language Master, etc.) are personal choices

Selection of books and journals for professional library

OPERATIONAL PROCEDURES

PLANNING THE YEAR'S PROGRAM

Every fall the therapist must plan and implement the year's program of speech and hearing therapy in each of his assigned schools. The smooth operation of this program will depend on his efficiency in developing an understanding on the part of the administrative staff and faculty of the need for this service and on his ability to help them visualize speech and hearing therapy as a part of the general educational program.

Before classes begin for pupils in September, several days are set aside in the schools for professional activities of the staff. Principals hold general faculty meetings for the purpose of introducing new staff members, orienting the faculty to policies and programs, and developing plans for smooth operation of the school. During this time the therapist should visit each of his assigned schools. It will be his duty to establish and conduct the therapy in each one of them. In order to insure an adequate organization and a continuing smooth operation, the following suggestions are offered:

1. Confer with the principal of each of his assigned schools about the speech therapy program in the school.

   The therapist should discuss with the principal the selection of his assigned room to be sure it is suitable for therapy purposes. He should ask about materials and equipment. He should propose a rotating schedule and help resolve schedule conflicts. It is of particular importance that he address the faculty during the week prior to the opening of school. The therapist should discuss the types of disorders and describe the methods of referral and follow-up. He should be sure to explain the role each teacher should play in the corrective processes.

2. Locate the room assigned and become familiar with materials available.

3. It is essential that the speech therapist acquaint himself with records of the pupils previously enrolled in therapy.

4. Secure the school class lists and begin to locate pupils in their new grade and class assignments.

5. Distribute teacher referral forms to each teacher giving a date when they should be returned.

PROVISION OF SERVICES

The therapist is responsible for conducting the following activities to insure and facilitate the effective functioning of the program:

Locate and Identify Children In Need of Therapy: The most effective method of locating children with speech problems is by screening procedures carried out by the therapist.

Many authorities suggest that the screening of all children in grades 1, 3, and 5, is advisable. If only one grade can be screened, it is recommended that this be the third grade. All new children entering a school during the year should be screened regardless of grade.

Many speech therapy programs are currently locating prospective children by teacher referral. Other sources of referral are other school personnel, parents and outside agencies. Both screening and referral should be utilized by the therapist.

Following the child's referral by a teacher or selection by a screening process, the therapist evaluates the child's speech and language development to determine whether therapy is indicated.

After a child's speech evaluation has been completed and need for therapy has been established, the parent should be notified. The school may request the parents' permission by signature to admit the child to the therapy program.

Determine The Size of the Case Load: Since the chief objective of the program is to help pupils overcome speech defects, the case load should be of such a size that the therapist can spend sufficient time with each pupil to achieve results. The State requires the case load be between 75-100 children. It is strongly recommended that a beginning therapist restrict his case load to the minimum number of 75. As children are dismissed, others are added. Factors influencing the number of children receiving therapy are the ages and grades of the children and the type and severity of the disorders.

Organize School Travel Schedule: Each therapist should submit a copy of his school visitation schedule to his supervisor and to each principal of the schools to which he is assigned. The school visitation schedule should be based on time allotted each school, the number and severity of cases, and the maximum number of times the pupils can be seen. It is often wise to post the schedule on the bulletin board in the office and in the therapy room.

A minimum of one-half day coordination time should be reserved in the therapist's schedule. The therapists should utilize this time for:

1. Parent conferences
2. Re-evaluation
3. Continual screening of students new to the school
4. Completing records
5. Professional growth
6. Staff meetings or conferring with principals, teachers, and other professionals

Organize An Effective Schedule of Cases: The speech and hearing therapist should make accurate decisions with reference to scheduling pupils for group or individual therapy. The type and severity of the pupil's defect and his age, grade in school, and mental ability are important factors in determining whether he should receive therapy individually or in a group. Individual therapy provides a one-to-one relationship in which the pupil receives the therapist's full attention. Group therapy provides pupils with the "give and take" of everyday relationships with their peers. In a homogeneous group, pupils of the same age or grade range have similar disorders. In a heterogeneous group, pupils of the same age or grade may evidence diverse problems. Both groupings have advantages.

Some flexibility should be allowed throughout the therapist's schedule so she can meet unforeseen situations. This would include unscheduled parent and teacher conferences. The therapist should establish a tentative schedule and work with the teachers to resolve any conflicts.

The apportionment of time will depend in part on the specific school's organizational schedule. On the elementary level, pupils should be scheduled AT LEAST twice a week for twenty- or thirty-minute periods. Certain cases may need to be seen more often. The speech therapist should consult the principal concerning the integration of the therapy schedule with that of other specialists assigned to the school.

On the secondary level, the therapist must exercise special care in scheduling pupils. Major academic subjects and subjects in which a pupil is deficient should be avoided, where possible. The most convenient time for working with secondary pupils will be determined by the pupils' individual schedules.

The speech therapist should adhere very closely to the schedule he has established. If there must be a deviation from it, he should notify the pupils, the classroom teachers, and the principals. The therapist has the same responsibility for regularity in attendance as does any teacher. In the event of the absence of pupils or of interruptions, such as assembly programs, schedules should be adjusted so that time is not wasted.

Pupils' Records: Since many pupils with speech and hearing defects may have backgrounds of physical and/or environmental problems, individual records and reports on each child are necessary.

A manila folder should be kept for each pupil enrolled in therapy. The folder should contain:

1. Results of complete diagnostic speech tests
2. Parental Approval Form
3. Case History Form
4. Audiogram (if there is a hearing loss) or date of screening
5. Reports of any psychological evaluations
6. Notation of physical defect(s) which may be a contributing factor to speech pathology
7. Reports from university or hospital speech and hearing clinics
8. Periodic reports of progress of therapy
9. Notation of parent conference
10. Teacher Referral Form
11. Any sample of academic or creative work done by the pupil

These reports are confidential. Therapists must be extremely careful in recording information which may be misconstrued or damaging to the child.

Reports To The Administration: Periodic reports concerning the status of the speech and hearing program should be made to the principal and to the supervisor of special education.

Conducting Conferences: Since counseling is an integral part of a well-rounded public school speech and hearing therapy program, the therapist skillfully plans and conducts conferences regularly. These conferences, particularly those involving parents, enable the therapist to better understand and help pupils who are enrolled for speech therapy.

The speech therapist acts as a counseling advisor to adults, informing individuals about the program, offering advice and suggestions for the purpose of therapy, and supplying reassurance to individuals who are counseled on behalf of a pupil with a speech and hearing disorder. The conferences should include:

1. Administrative conferences
2. Teacher conferences
3. Parent conferences

Coordination of Related Services: Competent speech, hearing, and language therapy requires effective communication among all persons concerned with the habilitation of the pupil. The exchange, interpretation, and coordination of available information can best be facilitated through a team approach.

The school administrator is instrumental in initiating and coordinating appropriate channels of communication. These channels will include personnel within the divisions of special education, pupil personnel, instruction, and public health, as well as community, diagnostic, and treatment agencies. Especially important in every therapeutic program are the parents of the pupils.

The cooperation, communication, and coordination of the teacher, principal, counselor, school nurse, speech therapist, psychologist, public health nurse, audiometrist, psychometrist, and pediatrician is vitally important toward meeting the needs of each child and helping him achieve his full potential.

INITIAL ORGANIZATIONAL ACTIVITIES

The following is a check list of suggestions which may be helpful to the therapist as he organizes the program for the year:

During Orientation Week:

______ visit each school to meet or confer with each of your principals

______ ask each principal for time to discuss your program with the faculty during the week preceding school

______ distribute your teacher referral forms

______ locate your files and materials

______ familiarize yourself with the information found in your case folders

______ confer with the principal if there are conflicts in use of the assigned room

______ complete your school schedule

During the First Week of School:

______ investigate these pupils' new grade and room assignments

______ begin retesting cases that were retained in therapy (if therapist is new to an assignment or new to the school system)

______ schedule those who were in active therapy last year (if therapist is continuing in an assignment)

______ distribute a copy of your school schedule to each principal and the supervisor

As Soon As Possible:

______ distribute a copy of your case schedule to each principal

______ begin therapy

______ notify each parent of his child's enrollment or continuation in therapy and secure parental consent form

______ establish a case folder for each child enrolled in therapy and for each child on the waiting list

______ make inquiry concerning dates for audiometric testing

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III

SPEECH AND LANGUAGE DEVELOPMENT AND REMEDIATION

IIIa

LANGUAGE

SLDR

SPEECH AND LANGUAGE DEVELOPMENT AND REMEDIATION

INDIVIDUAL LANGUAGE DEVELOPMENT

The development of an adequately functioning communication system in an individual is a very intricate and involved process.[1] (22). A child must learn to receive, integrate, and express linguistic symbols. Auditory and visual channels are his major receptive senses. Integration of his language depends upon such aspects of thought as memory, recall, cognition, and association. The child must be able to receive stimuli, classify information by coding, sorting, selecting, organizing, and retaining it, and then convert it into verbal context.

Since language is learned behavior, the kind of environment in which the child is nurtured influences, to a large degree, the nature of his communicative system and his ability to manipulate linguistic symbols. Stated in another way, the nature of input of language into a child's nervous system will largely determine the quality and quantity of his verbal output. This further complicates the task of creating fixed language standards for all children at given chronological ages. Parents have the opportunity of creating environments which accelerate language growth by providing youngsters with positive reinforcements in establishing language patterns, and which enable them to develop feed-back systems capable of self-monitoring and self-correction. In addition, intelligence, perception, and motivation are important factors aiding or impeding language growth.

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[1] Number in parentheses refers to the bibliography listed on pages 36-38.

Speech and Language Development Chart*

The following chart is a guide to the classification of specific linguistic abilities according to chronological age development. An analysis chart of some of the areas of expressive and receptive language in reference to their "expected" age of occurrence may serve as a valuable instrument if used as a general index of normative language behavior. This is not a standarized tool of assessment, but should provide the therapist with guidelines to ranges of verbal communication.

Age	Appearance of Individual Sounds[2]	Vocabulary Size	Word Type	Sentence Length	Expressive Language	Purpose of Vocalization	Auditory Memory Span	Receptive Language
1.0		1-3 words	Nouns		Babbling Lalling Echolalia	Pleasure	Imitation and repetition (may not have meaning)	Understands "no-no" inhibition Plays pat-a-cake
1.5		20-100 words	Nouns Verbs	Single words	Jargon Some words	Attention getting	Repeats some words (may not have meaning	Understands simple verbal instructions accompanied by intonation and gesture Identifies 3 body parts Points to 5 simple pictures for corresponding words
2.0		200-300 words	Nouns Verbs Adj.	2 Words	Words Phrases Simple Sentences	Meaningful Social control Wish request	2 digits 1-2 objects	Identifies 5 body parts Finds 10 pictures Obeys 1 or 2 prepositions ("Put the ball on the table")
2.5		400-500 words	Nouns Verbs Pronoun I					Points to 15 pictures Obeys 2-3 prepositions
3.0		800-1000 words	Nouns Verbs Adj. Pronouns you, me	3-4 words	Phrases Longer sentences	Social control Wish request	3 digits 4 lines	Points to 25 pictures Names 20 pictures

3.5	m, h, w all vowels	1100-1300 words						
4.0	p, b	1500-1700 words	Past tenses Comparatives	4 words	Complex sentences	Experience relating Information seeking		Knows colors, 4-5 prepositions, what familiar animals do
4.5	n, ng, y, k, g	1800-2000 words						
5.0	d	2100 words	Adverbs	4-5 words	Uses all parts of speech correctly	Information seeking	Counts to 10 Counts 4 objects Repeats 4 digits	Knows most common opposites Names 5 colors Can define simple words
5.5	f	2300 words						
6.0	t	2500 words		5 words	Likes to use big words Has fairly adequate grammar	Calls names Contradicts Argues	Repeats sentence of 16 syllables	Can tell the difference between 2 simple objects Distinguishes between morning and afternoon
6.5	sh, v, 1							
7.0	th (voiced)			6 words		Uses language complainingly Telephones friends	Can repeat 5 digits forward Repeats 3 digits backward	Can give similarities between 2 objects Is interested in meaning and spelling of words Uses picture dictionary
7.5	r, hw, s, th (breath), z, ch, j			7 words	Uses language fluently, almost as adult	Uses code language - secret words, etc.	Counts backward: 20-1	Understands cause and effect relationship

*Compiled from data in references 4, 13, 16, 19, and 26

[2] Upper limit of normality given

LANGUAGE INVENTORY SCALE

The Language Inventory Scale has been compiled from a number of authoritative sources and reflects particularly some of the writings of Gesell, Binet, Anderson, Lerea, and McCarthy. Therapists may find the scale helpful in diagnosing and appraising a child's language repertoire. It is a means by which one can gain an impression of a child's over-all linguistic abilities or disabilities.

Code for Marking

P - Present in child's repertoire
N - Not present in child's repertoire
I - Inconsistent response to stimulus

Age 2

	P	N	I
1. Identifies familiar objects by name:			
kitty	___	___	___
button	___	___	___
ball	___	___	___
bed	___	___	___
cup	___	___	___
train	___	___	___
doll	___	___	___
scissors	___	___	___
2. Obeys simple commands:			
"Put the spoon in the cup."	___	___	___
"Put the block on the floor."	___	___	___
"Give me the doll."	___	___	___
3. Identifies parts of his body:			
hair	___	___	___
mouth	___	___	___
hand	___	___	___
ear	___	___	___
4. Uses 2-word phrases and short sentences:	___	___	___
5. Answers specific questions:			
"What is your name?"	___	___	___
"What does the doggy say?"	___	___	___
"What does the kitty say?"	___	___	___
6. Uses nouns, verbs, and some pronouns:	___	___	___
7. Has eliminated the use of jargon:	___	___	___
8. Responds to directions:			
"Show me a dog."	___	___	___
"Show me a hat."	___	___	___
"Show me a man."	___	___	___

Age 2, continued

9. Distinguishes prepositions in and under:			
10. Says "Hello" and "Thank you":			

Age 3

	P	N	I
1. Identifies objects by use:			
"Show me what we drink out of."			
"Show me what goes on our feet."			
"Show me what we buy candy with."			
"Show me what we eat with."			
"Show me what we ride in."			
"Show me what we use to iron clothes."			
"Show me what we sleep in."			
"Show me what we sit on."			
"Show me what we cut with."			
2. Holds up fingers to signify age:			
3. Tells his or her own sex:			
4. Counts to three:			
5. Uses many parts of speech:			
nouns			
verbs			
pronouns			
adjectives			
prepositions			
6. Discriminates prepositions:			
"Put the ball on the box."			
"Put the ball in the box."			
"Put the ball in back of the box."			
"Put the ball in front of the box."			
"Put the ball under the box."			
"Put the ball beside the box."			
7. Names specific objects:			
pencil			
car			
key			
8. Repeats 5-, 6-, or 7-syllable sentences:			
9. Repeats 2 or 3 nonsense syllables:			
10. Recalls nonsense sounds after 15 seconds:			

Age 3, continued

11. Repeats 2 or 3 digits:
    (Tester speaks in monotone, with one second pause between numbers.)
    - 1, 2 ____ ____ ____
    - 2, 1 ____ ____ ____
    - 1, 3, 2 ____ ____ ____
    - 2, 3, 1 ____ ____ ____
12. Speaks in 3-word sentences: ____ ____ ____
13. Uses prououns I, me, you: ____ ____ ____
14. Names specific objects when pictures are presented:
    - rake ____ ____ ____
    - fire ____ ____ ____
15. Has auditory memory span of two words: ____ ____ ____
16. Gives family name: ____ ____ ____

Age 4

P N I

1. Identifies from pictures:
    - "Which one do we carry when it is raining?" ____ ____ ____
    - "Which one gives us milk?" ____ ____ ____
    - "Which one shines in the sky?" ____ ____ ____
    - "Which one catches mice?" ____ ____ ____
2. Gives appropriate response to:
    - "What do you do when you're sleepy?" ____ ____ ____
    - "What do you do when you're hungry?" ____ ____ ____
    - "What do you do when you're cold?" ____ ____ ____
3. Has number concept of 2: ____ ____ ____
4. Identifies 2 or 3 colors by name: ____ ____ ____
5. Recalls a nonsense syllable after 30 seconds: ____ ____ ____
6. Counts to 5 serially: ____ ____ ____
7. Repeats 3 or 4 nonsense syllables: ____ ____ ____
8. Speaks in complete sentences: ____ ____ ____
9. Speaks 4-word sentences: ____ ____ ____
10. Talks a great deal: ____ ____ ____
11. Boasts, tells tall tales, exaggerates: ____ ____ ____
12. Commits grammatical errors and misuses words: ____ ____ ____

Age 4, continued

13. Uses questions "How" and "Why" to keep conversation going: _____ _____ _____

14. Can repeat 4 digits in succession:
(Tester speaks in monotone, with one second pause between numbers.)
4, 7, 3, 2 _____ _____ _____
4, 1, 5, 6 _____ _____ _____
2, 1, 4, 5 _____ _____ _____
6, 2, 1, 3 _____ _____ _____

15. Names specific objects when pictures are presented:
spider _____ _____ _____
owl _____ _____ _____
toe _____ _____ _____

16. Has auditory memory span of 4 words: _____ _____ _____

17. Says at least one nursery rhyme or poem or sings a single song or two with most of the essential detail: _____ _____ _____

Age 5

P N I

1. Has number concept of three:
"Give me 3 blocks." _____ _____ _____
"Give me 2 blocks and 1 bead." _____ _____ _____
"Give me 3 pencils." _____ _____ _____
"Give me 2 pencils and 1 eraser." _____ _____ _____

2. Follows a 3-stage command: _____ _____ _____

3. Names 5 colors: _____ _____ _____

4. Repeats 4 or 5 nonsense syllables after 45 seconds: _____ _____ _____

5. Uses all parts of speech correctly: _____ _____ _____

6. Speaks in 4- or 5-word sentences: _____ _____ _____

7. Is generally inquisitive: _____ _____ _____

8. Can define simple words: _____ _____ _____

9. Names specific objects when pictures are presented:
bench _____ _____ _____
horseshoe _____ _____ _____
rainbow _____ _____ _____
church _____ _____ _____

Age 6

		P	N	I
1. Speaks in 5-word sentences:				
2. Uses language aggressively:				
3. Uses telephone and dials:				
4. Likes to use big words:				
5. Can often detect own mistakes and may accept correction:				
6. Has fairly adequate grammar:				
7. Names specific objects when pictures are presented:	lock			
	apron			
8. Can repeat sentence of 16 syllables:				
9. Distinguishes between morning and afternoon:				

Age 7

		P	N	I
1. Uses language complainingly: "Nobody likes me"; "People are unfair."				
2. Is interested in meaning and spelling of words, use of a picture dictionary:				
3. Can give similarities between 2 objects:				
4. Can repeat 5 digits in succession: (Tester speaks in monotone, with one second pause between numbers.)	4, 7, 3, 5, 2			
	3, 4, 6, 2, 1			
	1, 3, 7, 2, 5			
	4, 3, 4, 5, 6			
5. Names specific objects when pictures are presented:	vase			
	faucet			
	arrow			
6. Speaks in 6-word sentences:				
7. Is critical of own performance:				
8. Repeats 3 digits backwards:				

Age 7, continued

9. Knows number of fingers on each hand and on both hands:			

Age 8

	P	N	I
1. Names specific objects when pictures are presented:			
grave			
cuff			
jar			
2. Speaks in 7-word sentences:			
3. Counts backwards 20 to 1:			
4. Adds numbers within ten:			
5. Names week days in order:			
6. Uses language fluently, almost as an adult:			
7. Raises voice when angry or tired:			
8. Usually has good pronunciation and standard grammar:			
9. Can give similarities and differences between objects:			
10. Can verbalize ideas and problems:			
11. Begins to understand cause and effect relationships:			

Age 9

	P	N	I
1. Speaks in 7-word sentences:			
2. Uses language more as a tool than for its own sake:			
3. Has returned to many incorrect grammatical usages:			
4. Writes out lists and plans:			
5. Uses language to express subtle and refined emotions: disgust and self-criticism:			

Age 9, continued

6. Increases interest in reading: ____ ____ ____
7. Increases interest in TV: ____ ____ ____
8. Criticizes parents' actions verbally: ____ ____ ____
9. Begins to exhibit independent critical thinking: ____ ____ ____
10. Knows the date: day of week, day of month, month of year: ____ ____ ____
11. Gives months of year in correct order: ____ ____ ____
12. Comprehends and answers easy problem questions: ____ ____ ____
13. Makes change in small amounts: ____ ____ ____
14. Repeats 4 digits backwards: ____ ____ ____
15. Gives rhymes to 3 words: ____ ____ ____

Age 10

P N I

1. Speaks in 7-word sentences: ____ ____ ____
2. Repeats 6 digits successively: ____ ____ ____

   (Tester speaks in monotone, with one second pause between numbers.)

   2, 5, 3, 7, 4, 8
   1, 2, 6, 4, 3, 5
   5, 2, 7, 3, 1, 9
   6, 5, 3, 7, 2, 1

3. Criticizes absurd statements: ____ ____ ____
4. Comprehends and answers difficult problem questions: ____ ____ ____
5. Uses 3 given words in two sentences: ____ ____ ____
6. Defines 30 words from vocabulary list: ____ ____ ____
7. Reads a short passage and reproduces content: ____ ____ ____
8. Repeats 20 to 22 syllables: ____ ____ ____

MOTOR PERFORMANCE INVENTORY SCALE

In addition to an assessment of a child's language capacity, a general impression of his ability in motor performance is frequently helpful.

The Motor Performance Inventory Scale has been compiled from a number of authoritative sources, particularly the writings of Binet, Gesell, Cattel, Anderson, and Frisina. It suggests general levels of motor performance in most children, which may assist the therapist in his observation of the pupil.

Code for Marking

P - Present in child's repertoire
N - Not present in child's repertoire
I - Inconsistent response to stimulus

Age 2

	P	N	I
1. Walks, runs fairly well:			
2. Walks upstairs alone, stands with both feet on step before moving to next:			
3. Builds tower of 3 or 4 blocks:			
4. Imitates vertical and horizontal strokes:			
5. Likes to walk on curbs and walls:			
6. May use pattern in a rug, etc., as a road for a toy car:			
7. Attends to individual parts of toys:			
8. Turns pages of a book singly:			
9. Scribbles spontaneously with a pencil:			
10. Imitates a circular motion with a pencil:			
11. Puts together 3-piece peg toy:			
12. Completes 3-piece formboard forward:			
13. Begins to match 2 like objects or simple pictures:			
14. Plays meaningfully with toy dolls and toy furniture:			
15. Kicks large ball:			

Age 3

	P	N	I
1. Jumps off the floor, feet together:			
2. Walks on tiptoes and keeps balance:			
3. Jumps from chair, feet together:			
4. Puts on coat unassisted:			
5. Builds a tower of 9 or 10 blocks:			
6. Is interested in having things in their proper places and helps put them there:			
7. Stands on one foot momentarily:			
8. Rides tricycle:			
9. Buttons coat or dress:			
10. Climbs jungle gym:			
11. Walks up stairs with alternating feet:			
12. Copies circle roughly:			
13. Is beginning to establish handedness:			
14. Imitates drawing of 0 and + :			
15. Puts a 15-piece peg toy together:			
16. Begins to match some colors:			
17. Carries on imaginative play:			
18. Likes to do things for self:			
19. Enjoys play with other children:			

Age 4

	P	N	I
1. Handedness well established (90% of the time with preferred hand)			
2. Climbs as high as opportunity permits:			
3. Hops on one foot for 2 or 3 hops:			
4. Walks downstairs with alternating feet:			

Age 4, continued

5.	Plays hide and seek:			
6.	Draws a fairly recognizable man:			
7.	Completes an 8-piece formboard puzzle with ease:			
8.	Imitates drawing of square:			
9.	Imitates drawing of pyramid:			
10.	Imitates drawing of gate:			
11.	Arms out, eyes closed, touches nose twice with each finger:			
12.	Stands on one foot, hand on hips, eyes open for 10 seconds:			

Age 5

		P	N	I
1.	Skips on alternate feet:			
2.	Throws ball fairly well:			
3.	Ties simple overhead knot:			
4.	Dresses self except for tying:			
5.	Draws a man with more detail:			
6.	Hops on one foot for 10 to 12 feet:			
7.	Colors circle with some idea of staying within lines:			
8.	Imitates drawing of triangle:			
9.	Imitates drawing of a wagon:			
10.	Imitates drawing of star:			
11.	Copies six cubes:			
12.	Holds feet together, hand on hips, eyes open for 10 seconds:			

Age 6

	P	N	I
1. From this point on, motor development consists largely of the elaboration of specific skills, bicycle riding, swimming, writing, etc.			
2. Distinguishes between "P" and "B" and "Q" and "D":			
3. Prints simple words (3 to 4 letters) and his own first name without copying:			
4. Bathes self unassisted:			
5. Imitates horizontal diamond:			
6. Imitates inverted triangle:			
7. Stands heel-to-toe, eyes closed, hands on hips for 10 seconds:			
8. Bounces ball and catches it with one hand, not moving feet:			

Age 7

	P	N	I
1. Discriminates between printed letters:			
2. Walks a 2-yard line, heel-to-toe, hands on hips:			
3. Catches a ball with one hand, thrown from 3 yards:			
4. Makes circles with forefingers, arms extended:			

LANGUAGE EVALUATION CHECK LIST

During the course of therapy, it is necessary to evaluate and further describe the developmental pathology of language disorders. Although not sequential or all-inclusive, they may guide the therapist in directing effective therapy.

In the course of evaluation and therapy:

______ secure a case history, including environmental factors

______ assess child's development according to scale listed on page 21

______ evaluate articulation

______ examine oral structure and function

______ administer or secure an audiometric evaluation

______ evaluate child's social adjustment

______ secure health records or obtain neurological information

______ administer tests necessary to determine child's assets and liabilities in language skills

______ confer with other specialists as to child's intellectual, emotional, educational, physical, and neurological functioning

______ alleviate or remove any physical, psychological or environmental conditions which can be reversed

______ outline therapeutic approach based on diagnostic information

LANGUAGE REMEDIATION

Many approaches have been employed in remedial instruction to alleviate language deficiencies. Some authorities advocate a permissive atmosphere of play therapy where the emphasis is placed not on language but on the enhancement of the child's self-concept, with the assumption that language will develop as self-realization is attained. Other authorities emphasize highly organized formal teaching in such areas as sound production, intense sensory stimulation, and grammar instruction, aimed directly at decreasing the language delay. Still others follow an eclectic philosophy, selecting and adopting the most useful points from the different approaches to language remediation.

The trained therapist must therefore constantly evaluate the language-learning process and be prepared to adapt a method and technique to aid a given youngster at a given time.

MENTAL RETARDATION

A vital aspect of living is one's ability to present thoughts in an intelligible manner through speech. Speech, at its lowest level, provides for the communication of basic needs and feelings. It permits one to establish his identity and to assert his feelings and attitudes. Speech, at the peak of development, serves as a method of conveying to one's environment all manner of meaning and any degree of thought of which he is capable.

The mentally deficient or trainable have been described as those pupils with an intelligence quotient between 30 and 50. The educable mentally deficient have been described as pupils with an intelligence quotient between 50 and 78.

The ultimate goal of the speech therapy program is to develop meaningful speech as a method of communication. The program is directed towards establishing in the child a set of positive values for speech as a means of communication and facilitation of the acquisition of increasing complex form of speech consistent with the ability of the child.

It is the responsibility of the therapist to evaluate the speech and language of all pupils who are suspected of having a communication problem.

The therapy program is operated on two closely related levels. The first involves a language development program which is an essential and on-going part of the school curriculum. The therapist operates in this area by demonstrating techniques and organizing concepts which are presented to the classes as a whole, with the teacher participating in what is essentially a demonstration lesson. The teacher then follows through with these language activities until the next weekly session with the therapist. The therapist is available during the week for consultation and support of the program. In this way, there is a direct carry-over of therapeutic procedures into the general program. This technique is vital to the program since language activities permeate every aspect of the school day. It would be unrealistic to set aside an isolated period in the daily program for "communicating".

The second phase of the therapy program in the school for the trainable is the selection and grouping of pupils for specific remediation, as traditionally practiced by therapists in the public schools. Emphasis is placed upon language development with less stress on the articulation of the specific sounds of speech.

DIAGNOSIS OF DISORDERS ASSOCIATED WITH MENTAL RETARDATION

In the diagnosis and classification of the speech and language defect, it should be noted that the speech and hearing disorders manifested by the general population are found among the mentally retarded. If a difference exists, it is most probably in the degree of involvement. As a rule, the disorders tend to be more severe, the emotional overlay greater, and if any generalization is possible, the length of therapy longer and the prognosis poorer. Since language and speech are learned behavior and the retardate has a learning problem, his learning in these areas occurs with no greater facility than his learning in general.

Checklist for the therapeutic treatment of the mentally retarded pupil:

______ stimulation of speech

______ work toward the acquisition of basic verbal social responses

______ some degree of articulation therapy to improve intelligibility (for the sake of communication rather than aesthetics)

______ prove "basic experiences" from which to draw vocabulary and concepts for conversation

______ provide informal "real life" speech and conversational opportunities

Therapeutic procedures should be considered in the light of the problems of a particular child. Since the mentally retarded pupil may display any of a number of speech and hearing problems, the therapist may wish to consult the appropriate section of this manual. Good therapeutic techniques used with children who have normal development of speech and language may be applicable for the mentally retarded with modification. In developing various concepts the cardinal rule is to proceed at all times from the concrete and simple to the abstract and more complex.

The pupil who has developed speech and language in a normal fashion comes to the therapist with a number of concepts already established. It cannot be assumed that these obvious concepts are a part of the language structure of the retarded. The therapist must test for their presence and if they are lacking, provide for their acquisition. Examples of these concepts are listed below:

1. Basic social salutations
2. Boy-girl concept
3. Family concept
4. Home concept
5. Basic trips
6. Gross anatomy
7. Emotions
8. Weather

DIAGNOSIS AND EVALUATION OF LANGUAGE DEVELOPMENT

In his attempt to comprehensively evaluate a child's language development, two tasks confront the professional worker. His first task is the analysis and description of the language present in the child's repertoire at the time of the evaluation. His second task is to study variables which might help him in discovering the etiology of the problem and aid him in deciding upon a course of management in order to reduce or eliminate it. In making a differential diagnosis, the speech and hearing therapist must recognize the problem and distinguish it from other problems with which it might conceivably be confused. The following chart lists and describes some helpful diagnostic tests and inventories:

TEST	DESCRIPTION
Peabody Picture Vocabulary Test (Forms A and B) American Guidance Services, Inc. 720 Washington Avenue, S.E. Minneapolis, Minnesota 55414	Each form of this test consists of 150 words drawn from an initial pool of 3,885 picturable words selected from all entries in the Merriam-Webster New College Dictionary. The child puts his finger on or indicates the correct picture among four possible choices. The words are presented orally and increase in difficulty as the test progresses.
Vineland Social Maturity Scale Educational Test Bureau American Guidance Services, Inc. 720 Washington Avenue, S.E. Minneapolis, Minnesota 55414	This is recommended for use at the pre-school level as a measure of adoptive behavior. It is used to differentiate between the lower levels of retardation of the school age group.
Illinois Test of Psycholinguistic Ability (McCarthy & Kirk) Illinois Medical Book Company 215 West Chicago Avenue Chicago, Illinois 60610	This test, based on Osgood's theoretical model, identifies two levels important for language acquisition and use: the representational level, "which is sufficiently organized to mediate activities requiring the meaning or significance of linguistic symbols," and the automatic-sequential level, "which mediates activities requiring the retention of linguistic symbol sequences and the execution of automatic habit chains." Three main psycholinguistic processes or sets of habits are contained in this theory: decoding (those habits required to obtain meaning from either visual or auditory linguistic stimuli);

	encoding (those habits required to express one's self in words or gestures); and association (those habits required to manipulate linguistic symbols internally). The model specifies the use of certain channels of communication: stimuli can be auditory or visual while responses can be motor or vocal.
The Michigan Picture Language Inventory	This test measures the normal and the language-retarded child's ability to express and comprehend vocabulary and language structure. It visualizes "linguistic meaning" as involving two components: lexicon (the lexical meaning of a word as indicated in a dictionary) and structure (the relationship between lexical elements in a particular utterance).
The Verbal Language Development Scale (Mecham)	A description of the child's communicative behavior is elicited from an informant, and the child is given full, partial, or no credit for specific items in the scale, depending upon the nature of the behavior of the child. The scale consists of fifty items testing abilities of children from ages one month to sixteen years.
Communicative Evaluation Chart from Infancy to Five Years (Anderson, et al.)	Items begin at a three month level and end at the five year level. Language items deal with coordination of the speech musculature, development of hearing acuity and auditory perception, acquisition of the vowels and consonants, and growth of receptive and expressive language. Performance items evaluate physical well-being, normal growth and development, motor coordination, and beginning visual-motor-perceptual skills.

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IIIb

ARTICULATION

SLDR

ARTICULATION

DEVELOPMENT, DISORDERS AND THERAPEUTIC POINTS OF VIEW

DEVELOPMENT

Many people think of a speech problem only as an articulation disorder or "not being able to say the sounds in words correctly". Although articulation is not the only difficulty encountered, it is the most common type of speech disorder.

In order to carry out the most effective evaluation and treatment of these problems, it is necessary to have available certain normative information with which to compare articulation skills: ages at which sounds are normally acquired, the amount of articulation competency to be expected by a certain age, and the importance of various sounds to the intelligibility of a child's speech.

1. Age expectation of sounds by position in words and frequency of occurrence in the speech of children. Refer to Chart A following page 43.
2. Differences in the articulation competency of various groups.

AGE

According to Templin's 1957 study, a child is correctly producing 53% of the speech sounds by the age of three years. The largest increment in sound repertoire is between 3 and 3½ years. There is a sharp deceleration in sound acquisition after the age of 7 years. The average 8 year old has acquired a 94% articulation accuracy. One of the reasons that this figure is not 100% is that the w for hw substitution does not improve.

SEX

By the age of 8 years, boys reach essentially mature articulation. Girls reach that point about a year earlier.

SOCIO-ECONOMIC LEVEL

Templin found that in the total test group the children from the upper socio-economic level produced more sounds correctly than the children from the lower socio-economic level. When broken down into age groups, differences were found to occur in only the 4, 4½, and 7 year age groups.

DISORDERS OF ARTICULATION

There are four types of misarticulation: (1) omission, (2) substitution, (3) distortion, and (4) addition. The most common error is the substitution of one sound for another. Consonants may be substituted or distorted by errors in voicing, placement, manner, or nasality. The most serious is the omission. Vowels may also be substituted or distorted.

In addition to these types of errors, important considerations are the phonemic similarity of the errors to the intended sound, the intelligibility of the child's speech, and factors causing or contributing to the articulation problem.

Factors influencing the severity of articulation problems are:

1. Number of sounds in error
2. Frequency which the misarticulated sound is used in speech
3. Consistency of the error in initial, medial, and final positions of words
4. Type of sounds missed
5. Type of error and the phonemic similarity of the substituted sound. Sounds may be phonemically similar in that placement of the articulators may be similar, or they may be produced in a like manner, i.e.: a fricative substituted for a fricative
6. Developmental level of the error sounds
7. Consistency of error in spontaneous or imitated tests (Stimulability)
8. Consistency of the substituted sound

EVALUATION

1. Case History
    a. Has the child had experience with speech? Age of first real words, sentences. Older sibling interpreter. Little stimulation from adults. Poor speech model.
    b. Are family speech standards too high or too low?
    c. Are there indications of neurological problems which might impair coordination, sound discrimination, or memory span?
    d. Is there or was there a physical disability which is now contributing to the problem or which at an earlier age led to lack of experience or infantilization?
    e. Is the child as socially mature as others his age?

2. Observation of spontaneous speech (Over-all view of child's ability to converse and be understood). With an extremely reticent child, situations may need to be contrived which will stimulate speech without pressuring him to talk, i.e.: put chair on the table.

3. Administer a single word articulation test for analysis of sounds misarticulated in spontaneous production, i.e.: Templin-Darley Articulation Test, McDonald's Deep Articulation Test, The Hejna Developmental Articulation Test, and Photo Articulation Test.

4. Check stimulability with the Carter-Buck Nonsense Syllable Test, or stimulate error sounds in words. If error persists, provide strong stimulation of the isolated sound.

5. Rate intelligibility with the Barker Scale or subjective evaluation, i.e.: Is the child always understood, understood most of the time whether or not the topic of conversation is known, understood if the topic is known, usually understood if the topic is known, seldom understood, or completely unintelligable.

6. Auditory acuity: Pure-tone audiometric results.

7. Auditory discrimination: Wepman Auditory Discrimination Test, Templin Test of Auditory Discrimination, or Pronovost's Picture Discrimination Test.

8. Auditory Memory Span: Items from the Binet, ITPA, or Metraus Test of Auditory Memory Span.

9. Oral examination: Structure and function of the articulators.

10. Intelligence: Screening tests of intelligence which might be employed are the Peabody Picture Vocabulary Test, the Goodenough-Harris Drawing Test, or selected geometric form drawings from the Stanford-Binet Intelligence Test or from Gessell. Intelligence if in the normal range is of little consequence; but articulation skills of the retarded are poorer. Of course, if the child's intellectual ability is in question or if the speech therapist's screening procedures indicate below average intellectual functioning, the child should be referred to a psychologist for the definitive diagnosis.

ARTICULATION THERAPY

The two traditional approaches to correcting articulation have been the analysis-synthesis or phonemic placement method and the whole-word approach. The analysis-synthesis approach has been considered the most efficient in cases where it can be applied. A very young child or a retarded child may not understand the method and a child whose vocabulary is limited might benefit more from the whole-word approach.

New approaches are being evolved by McDonald and also by Winitz. Read Articulation Testing and Treatment, Sensory Motor Approach by McDonald and Articulatory Acquisition and Behavior by Winitz, for these approaches to therapy.

Analysis-Synthesis Method involves several ordered steps. These are:

1. Identification of the sound
2. Stimulation of the sound
3. Discrimination of that sound from others
4. Production of the sound in isolation
5. Production of the sound in one position of words
6. Production of those words in structured sentences, spontaneous sentences
7. Production of those words in structured conversation, casual conversation

Whole-Word Method

1. Introduce sound in the whole word
2. Use words in a category which begins with the same sound; such as, candy, cookies, cake
3. Use a social medium to make these words important
4. When the child has mastered the word, proceed just as in the Analysis-Synthesis Method. See Backus and Beasley.

If contributing factors can be eliminated before the initiation of speech therapy (psychological problems, orthodontic problems, etc.), this should be the first step.

TONGUE THRUST

Tongue thrust or reverse swallow may present articulatory or orthodontic problems. During this swallow, the tongue comes forward against or between the teeth. Many people exhibit this swallow who do not have orthodonic or speech difficulties. However, if this swallow contributes to a lisp or an orthodontic problem, therapy may be necessary.

This pattern is detected by observation during swallow. The tongue moves forward; frequently the lips tighten, sometimes causing dimpling in the chin; there is little masseter action. Often the child cannot swallow if the lips are parted.

2

There are several programs which may be followed, but all require dedication on the part of the therapist, child, and parents in order to bring about a change in a swallowing pattern. For this reason, tongue thrust therapy is not often applicable to the public school situation.

If no speech problem exists, the speech therapist should only work with a tongue thrust in cooperation with the orthodontist.

There are others, but programs which might be used are:

1. Tongue Thrust and Speech Correction. Alfred L. Larr. Long Beach State College, Fearon Publishers, Inc., 828 Valencia Street, San Francisco, California.
2. Tongue Thrusting Therapy. Bea Groginski. White Settlement Independent School District, Fort Worth, Texas.

CHART A

Sounds	Templin 1957 age expect. by position			Travis 1931 % freq. of occur. in children
	I	M	F	
t	3.0	6.0	3.0	12.0
n	3.0	3.0	3.0	10.4
r	4.0	4.0	3.5	9.3
s	4.0	3.5	4.5	8.9
l	4.0	4.0	6.0	6.3
d	3.0	3.0	4.0	6.3
m	3.0	3.0	3.0	5.2
k	3.0	3.0	4.0	5.1
z	7.0	3.5	7.0	4.3
w	3.0	3.0		4.2
ð	6.0	7.0		4.0
h	3.0	3.0		3.9
b	3.0	3.0	4.0	2.9
p	3.0	3.0	3.0	2.8
g	3.0	3.0	4.0	2.7
f	3.0	3.0	3.0	2.4
v	4.0	6.0	6.0	2.4
ŋ		3.0	3.0	1.9
j	3.5	3.5		1.7
ʃ	4.0	4.5	4.0	1.3
θ	6.0	6.0	6.0	.9
tʃ	4.5	4.5	4.5	.7
dʒ	4.0	5.0	7.0	.7
hw				.6
ʒ		7.0	7.0	.06

TERMINOLOGY ASSOCIATED WITH ARTICULATION DISORDERS

The following is a list of terminolgy which may be used in the diagnosis and treatment of articulation disorders.

Allophone...........a variant of a phoneme

Articulation......."the movement and placement during speech of the organs which serve to instruct or modify the voiced or unvoiced were steered into meaningful words" (2)

Auditory discrimination......."the ability to distinguish one speech sound from another" (2)

Auditory memory span.........."the faculty of immediate recall of sounds heard, usually tested by requiring the subject to listen to a series of unit vowel sounds spoken at a rate of one a second, and, at the conclusion of the series, to repeat the vowels in the order given" (4)

Auditory perception.........."mental awareness of sound" (2)

Carry-over..........the process of habituating newly learned sounds in speaking situations, specifically outside therapy sessions

Diadochokinesis....."the act or process of repeating at maximum speed some simple cyclical reciprocating movement, such as tapping the finger on the table or lowering or raising the mandible" (4)

Dysarthria.........."disorder of articulation due to lesions of those portions of the cerebrosinal nervous system from which, and by which, the organs of articulation are directly controlled" (4)

Functional defect..."any defect in which structural alteration can be neither demonstrated nor inferred" (2)

Interdental Frontal lisp......defective production of sibilant sounds due to the obstruction of the channel of air by placing the tongue-tip too far forward or between the teeth

Kinesthesia........."the sense of movement, derived from sensory end organs in the muscles, tendons, joints, and the canals of the ear" (4)

Lateral lisp........"defective production of sibilant sounds due to excessive escape of air over or around the sides of the tongue" (2)

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[1] Number in parentheses refers to the bibliography listed on pages 47-48.

TERMINOLOGY, continued

Moto-kinesthetic method......."a method for developing speech in which the therapist manually manipulates some of the speech muscles of the patient or touches parts to suggest movement at that point" (2) (Moto-Kinesthetic Speech Training, Young & Stinchfield, Stanford, California, Stanford University Press, 1955.)

Negative practice..."the deliberate and voluntary practicing of errors in order to break habits which have become automatic" (3)

Organic disorder....a defect in which structural difference is an important contributing cause

Phoneme.............a speech sound which has the effect of making one word distinguishable from another in the same environment

EVALUATION AND THERAPY FOR ARTICULATION DISORDERS

Check List for Therapy

During the course of therapy it is necessary to evaluate and further describe the developmental pathology of the disorder of articulation. Listed below are a number of suggested areas of investigation. Although not sequential or all-inclusive, they may guide the therapist in directing effective therapy.

In the course of evaluation and therapy:

______ administer appropriate tests

______ appraise the structure and function of the speech mechanism

______ administer or obtain the results of an audiometric evaluation

______ secure a case history

______ consult records of previous therapy

______ consult professional personnel who may have pertinent information regarding the child's problems

______ hold parent conferences

______ check periodically with teachers and parents to determine the effectiveness of therapy

______ provide suggestions to teachers and parents regarding the management of the problem

______ use the tape recorder regularly during the course of therapy

CATEGORIES OF THERAPEUTIC TECHNIQUES

Therapeutic techniques for the treatment of articulatory disorders fall into these categories:

______ Ear training for the sound

______ Identifying the sound

______ Recognizing the sound

______ Learning the sound

______ Reinforcing the sound

______ Transferring the sound to familiar words

______ Acquiring carry-over of the sound

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(k) Pronovost, W. and Dumbleton, C. "A Picture-Type Speech Sound Discrimination Test." *JSHD*. Vol. 18, 1953. page 266.

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(n) *Wepman Auditory Discrimination Test*. Language Research Associates, 300 North State Street, Box 5607, Chicago, Ill. 60610.

IIIc

STUTTERING

SLDR

DESCRIPTION OF THE DISORDER OF STUTTERING AND THERAPEUTIC VIEWPOINT

DEFINITION

"The making of a glossary is a tough assignment. Defining is onerous and demanding. A definition is like a net. It can catch one big fish---the major characteristic of the item being defined---but the little ones escape through the meshes.

Anyone who makes definitions is like a man who puts on a stove pipe hat and walks past a gang of children making snow balls. Everyone feels free to take a crack at him.

A definition is an invitation to all comers to make a better one. In Stevenson's, Treasure Island, one of the pirates is quoted as growling, 'Wots wot? Ah, he'd be a lucky one as knowed that.'

He who defines assumes the mantle of authority. He says in effect, 'Hear ye. Hear ye. This is what is. I have spoken.' And so immediately he becomes vulnerable."

Van Riper

First let us repeat that stuttering is not simply a defect in the making of speech sounds. It is not a problem of abnormal voice. Only in a general sense can we view it as a disorder of speech. Rather, it is a difficulty in the act of conversing with others. The stutterer seldom has trouble in talking to himself or in singing. It occurs primarily in the conversational act.

Van Riper has said, "The precise definition of stuttering has long presented difficulty. Perhaps the only one who knows what it is, is the stutterer himself. The dictionary refers to it as 'hesitating or stumbling in words' but one can hesitate or verbally stumble without stuttering and one can stutter forcibly without hesitating or stumbling. Most definitions are descriptions, perhaps the best is this; when fixations or repetitions of a sound, syllable or mouth posture are conspiciously unpleasant, most people call it stuttering."

According to Wendell Johnson---"We use the word stuttering in three main ways: (1) we use it to refer to what the speaker does; (2) we use it as a name for the category in which the listener classifies what the speaker does; and (3) we refer to the problem that ensues when a listener and speaker interact in such a way that excessive anxiety on the part of the speaker results."

When existing theories are analyzed, one is able to identify broad, general objectives that are similar. Therapy is meaningful when immediate and long-range goals are definitely established. Therapy should restore or increase the stutterer's ability to speak normally in any situation; enable the stutterer to achieve knowledge of the process of speaking and of the things he is doing to interfere with speaking; enable the stutterer to achieve a reversal of these evaluations which motivate the reactions involved in his stuttering; and enable the stutterer to achieve necessary changes in the attitudes, beliefs, and feelings that affect the interpersonal relationships involved in speaking.

Therapy should be designed to meet the needs of the stutterer. But first---determine the need. Not all children who stutter should have therapy. The individual child, his maturity and age, his problem, his reaction to his problem, the parents reaction and the teachers cooperation must all be weighed in deciding upon therapy.

If therapy is advisable, the following points should be kept in mind:

1. No single procedure will be effective with every stutterer.

2. The changing needs of the stutterer may affect selection and timing of procedures.

3. Therapy demands a mutual acceptance between therapist and stutterer.

4. Both long- and short-range goals are necessary. The therapeutic procedures used to achieve these goals should be varied and changing.

DIAGNOSIS

Diagnostic Evaluation

The techniques and tests used by therapists in diagnosing the disorder of stuttering should help in understanding the magnitude of the problem and the task involved in altering the speech pattern. They help answer these questions:

1. May the person be "helpfully" classified as a stutterer?
2. If so, how severe a stutterer is he?
3. What are the main manifestations of the stuttering?
4. What are their main effects on the stutterer?
5. Under what conditions does the stuttering decrease or increase?
6. What behavioral or personality aspects need to be changed?
7. What are the parental attitudes toward the stutterer?

Testing

One tool in the task of diagnosis is the case history. Another is the therapist's observation. Observation of the stutterer in various situations will enable the therapist to determine whether to administer one or several of the following tests:

1. Iowa Scale of Attitude Toward Stuttering
2. Check List of Stuttering Reactions
3. Measures of Frequency, Adaptation and Consistency of Stuttering
4. Scale for Rating Severity of Stuttering
5. Stutterer's Self-Rating of Reactions to Speech Situations

The results of data obtained through a series of conferences, interviews, and assignments need to be recorded in a systematic manner. The forms and explanations of their use are found in Johnson, Darley, and Spriesterbach, Diagnostic Methods in Speech Pathology. The concise, well-organized section on stuttering is a valuable reference for therapists.

EVALUATION AND TREATMENT FOR THE DISORDERS OF DYSPHEMIA

Check List for Stuttering Therapy

During the course of therapy it is necessary to evaluate and further describe the developmental pathology of the disorder of stuttering. Listed below are a number of suggested areas of investigation. Although not sequential or all-inclusive, they may guide the therapist in directing effective therapy.

In the course of evaluation and therapy:

______ observe and rate the severity of the stuttering

______ describe the stuttering phenomena according to repetitions, prolongations, interjections, and silent intervals

______ contact the teacher to secure information concerning school adjustment problems

______ secure a case history

______ analyze the stuttering phenomena in terms of frequency, adaptation, and consistency

______ examine overt behavior for patterns that need to be modified or eliminated

______ hold parent conferences

______ investigate the need for personality adjustment

______ measure the stutterer's attitude toward his problem

______ check the stutterer's self-rating of his reactions to speech situations

______ observe the stutterer in the classroom, on the playground, and, if possible, in the home setting

______ establish immediate and long-range goals with the stutterer

______ ask the stutterer to keep a speaking time record

______ evaluate nonfluencies of speaking and oral reading

______ contact the nurse to secure information concerning health problems

______ record samples of the stutterer's speech in actual speaking situations

______ provide information to the teachers and parents regarding the nature and management of the problem

______ check periodically with teachers and parents to evaluate the effectiveness of therapy

______ use the tape recorder regularly during the course of therapy

CATEGORIES OF THERAPEUTIC TECHNIQUES

The classification of therapy techniques has been divided into broad, general areas in order to eliminate as much as possible any terminology that is specifically associated with any one particular authority in the disorder of stuttering. The general areas are:

______ Working with parents

______ Providing information essential for the stutterer's use

______ Altering beliefs, attitudes, and feelings of the stutterer

______ Providing positive speaking experiences

______ Modifying undesirable reactions

______ Improving stutterer's personal adjustment

TERMINOLOGY ASSOCIATED WITH THERAPY FOR DYSPHEMIA

The following terms are associated with and may be utilized in the diagnosis and treatment of the disorder of stuttering.

Adaptation	the reduction in frequency or severity of stuttering indicated by repeated utterances in a relatively constant speaking situation
Anticipating reactions	the abnormal movements exhibited by a stutterer when approaching a feared word; the speaking behavior of the stutterer in his attempts to avoid the difficulty he is expecting; feelings and behavior exhibited before the overt performance of stuttering
Anxiety	a state of apprehension or dread often pertaining to anticipations of unsatisfactory interpersonal relationships
Approach-avoidance conflicts	the conflict a stutterer experiences as he approaches a feared word or situation that may be expressed in tensings that interfere with speaking
Avoidance reactions	actions the stutterer makes in trying to dodge stuttering or in endeavoring to avoid trouble talking
Biblio-therapy	use of reading as an assist in therapy; giving the stutterer assignments designed to correct his misconceptions or to influence changes in his attitudes
Block	refers to the stuttering behavior that happens at the instant the speech muscles do not function normally, resulting in a stoppage or obstruction experienced by the stutterer in trying to talk
Bounce	voluntary repetition several times of the first sound or syllable of a word in an easy effortless fashion
Breath chewing	talking while chewing the breath; using exaggerated eating movements
Cancellation	responding to the occurrence of a moment of stuttering by a deliberate pause followed by a second attempt on the word in which a different fluent form of stuttering is used
Client-centered counseling	involves a non-directive approach by the therapist who provides the stutterer an opportunity to express his feelings
Clonic spasm	muscular spasm in which there is an alternation of rigidity and relaxation

Consistency effect	the tendency for stuttering to occur in relation to the same words or sounds in repeated readings in response to the same cues or stimuli
Developmental hesitations	normal repetitions, prolongations or stumblings in the speech of a child learning to talk
Diagnosogenic theory	Wendell Johnson's theory that---"stuttering as a clinical problem as a definite disorder, was found to occur not before being diagnosed, but after being diagnosed"
Directive counseling	listening to and discussing with the stutterer his problems so that he can see his own misconceptions, with the therapist asking questions and suggesting answers as to how the stutterer should alter his attitudes
Disfluency or nonfluency	refers to speech which is not smooth or fluent. All speakers talk disfluently at times, that is, they hesitate or stumble in varying degrees. All stutterers are disfluent but all disfluency is not stuttering
Distraction	filling the mind with other thoughts so that the expectancy of stuttering is kept out thus temporarily giving release from fear of stuttering and stuttering reactions
Escape reaction	the psychological reactions of the stutterer in the attempt to remove himself from contact with a noxious stimulus
Eye contact	looking the listener in the eye while talking to him
Faking	consists of stimulating stuttering reactions and pretending to be having difficulty talking when in reality the person can at the moment speak without difficulty
Feared words	refers to anticipated difficulty with a word or a sound
Fixation	the maintenance of an articulatory or phonatory posture for an abnormal duration; the arresting of the speech muscles in a rigid position temporarily blocking speech, a variety of stuttering behavior. Often used with "oscillation"
Frequency	the number of instances or moments of stuttering measured in a given unit of speech
Frustration tolerance	the capacity of the stutterer to resist feelings of frustration because of his inability to speak without difficulty; the ability to put up with or endure the communication handicaps resulting from not being able to talk freely
Guilt	as this word is used by Sheehan in relation to stuttering---"a feeling reflecting the difference between role expectation and role performance; a self-directed reproach resulting from not measuring up to one's own self-expectations, also feeling of regret or remorse on what we may have done to others"

Hysterical stuttering.........stuttering, usually temporary, resulting from acute excitement or the result of shock or neurotic need

Identification......a mental mechanism wherein the stutterer gains gratification, emotional support or relief from anxiety by attributing to himself consciously or unconsciously the characteristics of another person or group

Modifying the stuttering pattern....refers to the stutterer changing what he does when he stutters. Some clinicians suggest that he can and should deliberately change his stuttering behavior and learn to stutter in different ways and usually in an easier manner. In so modifying his stuttering pattern he learns that he can change his way of speaking and that he can develop a style of talking which is less abnormal and free of excessive tensing in various forms

Nonfluency..........refers to speech which is not smooth or fluent. All stutterers are nonfluent but all nonfluency is not stuttering. For instance "nonfluency" could be used to describe the developmental hesitations of a child learning to talk or the airhythmic breaks in the normal speech of an adult

Objective attitude...........refers to the attitude of acceptance by the stutterer of his stuttering as a problem, a feeling relatively independent of one's personal prejudices or apprehension and not distorted by shame or embarrassment

Perseveration.......tendency for a mental or motor process to persist after the situation which elicits it ceases to be present

Primary stuttering............label used to describe nonfluent speech of a young child which occurs during the growth and development of the child's ability to talk and which may be observed to increase when the child is under certain kinds of emotional or communicative stress

Secondary stuttering..........speech interruptions plus struggle plus avoidance reactions with an awareness that this way of talking is abnormal and constitutes a difficulty

Secondary symptoms............refers to spasms of the speech musculature which are accompanied by anxiety about nonfluency and by habitual movements that are used as devices to break or conceal speech blocks

Self-concepts.......the awareness of an individual's differences from others and his subjective evaluation of these differences

Speaking time record..........a record made by the individual himself of the amount of time he spends in talking to specified persons or in particular situations

Starter	any means or device which the stutterer has acquired as a means of "breaking" a block in order to start the word he intends to say
Stuttering	spasmophemia; involuntary, intermittent interruptions of the automatic flow of speech, conditioned in part by the fear of such interruptions and of the hearer's reaction toward them
Stuttering pattern	refers to the particular way the stutterer experiences difficulty in talking, or the specific things he does, and the order in which he does these things that interfere with his speaking
Voluntary stuttering	refers to a manner of talking in which the stutterer in a conscious way performs as accurately as possible or with specific modifications, his habitual or usual stuttering pattern

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*Pamphlets

IIId

VOICE DISORDERS

SLDR

VOICE DISORDERS

DESCRIPTION OF VOICE DISORDERS

In accordance with those standards established within a given society, it is generally accepted that a normal voice is one which does not call unfavorable attention to itself. West, Ansberry, and Carr describe the normal voice as one which demonstrates:

1. Adequate loudness
2. Clearness of tone
3. A pitch appropriate to the age and sex
4. A slight vibrato
5. A graceful and constant inflection of pitch and force which follows the meaning of what is spoken[1] (11)

The defective and unpleasing voice is described as one drawing adverse attention through one or more of its phonatory characteristics, which are pitch, quality, and intensity. (2)

ETIOLOGY OF VOICE DISORDERS

The causes of voice disorders are structural, physiological, psychological, and functional. Because of the complexity of causations relating to the actual phonatory productions and their interactions, it is difficult to isolate a single characteristic of an individual's voice as being defective. For this reason, regardless of symptomatology, a report from a medical specialist must be obtained before commencing with therapy. After the report is received, therapy ensues for gaining mastery of better habits of phonation.

DIAGNOSIS OF DISORDERS OF THE VOICE

Classification of Voice Disorders:

A. Pitch is concerned with the activity of the muscles within the larynx. Groupings are:

   1. High-pitched
   2. Low-pitched
   3. Monotone, or monopitch
   4. Stereotyped inflections

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[1] Number in parentheses refers to the bibliography listed on pages 73-74.

B. Intensity is concerned with the "strength and duration of the breath pulse, the duration and force of the closure of the glottis, and the coupling factors in the resonators" (2). Groupings are:

   1. Excessive loudness

   2. Excessive weakness

   3. Aphonia

C. Quality is physiologically concerned with "the power and control of respiration; the size, elasticity, length, and surface condition of the vocal folds; the size, shape, tension, and flexibility of the resonator-articulator mechanism; and the rigidity, density, and surface conditions of the walls of the resonators" (2). Groupings are:

   1. Nasal (rhinolalia aperta)

   2. Denasal (rhinolalia clausa anterior)

   3. Harsh, strident, or guttural

   4. Husky, breathy, or throaty

   5. Hoarse

   6. Falsetto (adolescent voice changes)

SUGGESTED DIAGNOSTIC EVALUATIONS

After receiving reports from a medical specialist, the therapist may find these diagnostic tests useful in determing therapeutic procedures.

Test	Description
Articulation Evaluation[2] (e)	Evaluation of sound production, in words and sentences observing resonation, distortions, and loudness
Breathiness; supplementary evaluation form (d)	Form for breathy voice quality evaluation
General Voice Quality Examination form (d)	Form for medical history and voice evaluation
Harshness; supplementary evaluation form (d)	Form for harsh voice quality evaluation

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[2] Letters in parentheses refers to the bibliography listed on pages 73-74.

Test	Description
Intensity Evaluation (f)	Series of exercise skills for evaluating breath and muscle control
Nasality; supplementary evaluation form (d)	Form for nasal voice quality evaluation
Natural Pitch Level (b)	Procedures and techniques for determining level
Pitch Analysis Test (f)	Series of exercise skills for evaluating inflection patterns, pitch range and pitch discrimination
Pitch Evaluation (f)	Procedures for determining vocal pitch
Voice Disorders Form (a)	Extensive survey of vocal mechanism, its function and adaptation
Vocal Quality Evaluation (g)	Procedures for determining vocal quality

TERMINOLOGY ASSOCIATED WITH VOICE DISORDERS

The following is a list of terms which may be used in the diagnosis and treatment of voice disorders.

Aphonia	"absence of voice" (8)
"Breath chewing"	"technique devised by Emil Froeschels for restoring what might be called the natural voice...by combining vocalization with free chewing movements" (10)
Breathiness	escapage of air that is not being used in the vocalization process
Cul-de-sac	"having a 'blind end', as a resonator that functions by air waves passing across its only orifice, rather than passing from one orifice to another" (11)
Denasality (hyponasality)	condition occurring "when the nasal passages are obstructed to prevent adequate nasal resonance during speech" (8)
Diplophonia	a rare symptom of laryngeal phenomena in which a double note is produced in the larynx. It is sometimes produced by a simultaneous vibration of the false and true vocal cords
Dysphonia	"a disturbance of vocalization; any defect of phonation" (8); subdivided into pitch, quality, and intensity
Esophageal speech	sounds produced and the articulation of the laryngectomized person when speaking
Falsetto	the upper range of the pitch of the adult male beginning at the upper limits of his natural vocal range
Habitual pitch level	average or median pitch about which other pitches used in speech tend to cluster
Harshness	related to tone production and resonance; the result of excessive muscle tension and construction throughout the vocal mechanism from top to bottom; sometimes described as strained or strident
Hypernasality	excessive nasal resonality
Hypophonia	a form of dysphonia characterized by a whispered voice
Intensity (loudness)	in phonation, the lack of, or excessive use of, power needed in a given situation

Laryngeal carcinoma	cancer of the larynx
Monotone	speaking without variation of pitch which may be "the result of a lack of sense perception of the characteristics of tone or the result of a stiff, unresponsive vocal mechanism or a general hypotension, the product of low physical and/or neural vitality" (2)
Nasality	"the quality of speech sounds when the nasal cavity is used as resonator" (8)
Optimum pitch	the frequency at which the greatest vocal carrying power is achieved by the least expenditure of effort
Papilloma	in children, "a benign epithelial tumor of the papillary structure; a corn-like growth that must be surgically removed periodically;... self-limitation generally takes place at puberty" (4); usually resulting in hoarse and strained vocal quality
Polyps	"benign growths on the vocal folds that usually are larger than papilloma. Removal in surgery involves a stripping operation to strip the vocal folds of the growths." (5) Voice quality is usually displayed in varying degrees of hoarseness.
Resonance	"modification of the laryngeal tone by passage through the chambers of the throat and head, so as to alter its quality" (11)
Tracheotomy	"the formation of an artificial opening in the trachea" (8)
Ventricular phonation	"a voice problem due to abnormal posture of the laryngeal framework, resulting in phonation with the false vocal folds; characterized by degrees of hoarseness" (10)
Vocal bands	"either of two musculomembranous lips in the larynx forming a valve in the respiratory tract; vocal cord" (11)
Vocal cords	the thyroarytenoid ligaments which produce sound when set into vibration
Vocal nodules	"benign growths resulting from overuse of the voice; may be treated through surgical removal or vocal rest (5)

EVALUATION AND THERAPY FOR VOICE DISORDERS

Check List

During the course of therapy it is necessary to evaluate and further describe the developmental pathology of voice disorders. Listed below are a number of suggested areas of investigation. Although not sequential or all-inclusive, they may guide the therapist in directing effective therapy.

In the course of evaluation and therapy:

______ hold a parent conference referring the pupil to a medical specialist for a laryngoscopic examination

______ receive a written release from the medical specialist

______ secure a case history

______ appraise the structure and function of the speech mechanism

______ evaluate, pitch, determine the pitch range, level, and discrimination

______ evaluate vocal intensity for loudness, weakness, and aphonia in conversational speech and oral reading

______ evaluate vocal quality to define existing condition; that is, hoarse, husky, raspy, nasal, and denasal

______ evaluate articulation

______ evaluate breathing pattern

______ establish a possible cause, or causes, for the condition when it is not organic

______ investigate the environment and personality of the pupil

______ designate existing problem correctly to be one of pitch, intensity, quality or a combination

______ observe the pupil's speech functioning within the classroom

______ observe the pupil's speech functioning on the playground

______ analyze articulation for correct production and emission

______ administer or obtain results of an audiometric evaluation

______ check periodically with teachers and with parents to determine effectiveness of therapy

______ provide suggestions to teachers and parents regarding management of the child's problem

______ use the tape recorder regularly during the course of therapy

CATEGORIES OF THERAPEUTIC TECHNIQUES

The following is a list of categories which are used in the therapeutic treatment of voice disorders:

______ Improving ear training in vocal discrimination

______ Breathing and relaxation

______ Finding the new voice

______ Stabilizing the new voice

IMPROVING EAR TRAINING IN VOCAL DISCRIMINATION

Procedure	Materials and Construction
1. The therapist produces "light" or "heavy" sounds on rhythm instruments as the pupil's back is turned. The pupil selects the correct button to discriminate sound intensity and places it on the ladder. As he answers correctly, he climbs up the ladder.	Rhythm instruments Red and green buttons (Red buttons signify heavy sounds. Green buttons signify light sounds.)
2. As he listens to the tape, the pupil distinguishes high and low tones by clapping hands or raising a flag. The therapist may initially accompany the vocal phonations, using hand movements to indicate pitch levels. The pupil will later respond without the assistance of the therapist.	Tape recorder Pre-recorded pairs of tones

Procedure	Materials and Construction
3. The therapist blows a tone on the pitch pipe. The pupil places the tone either on the floor or on the stairway between floors of the house. The pupil should also locate vocal tones.	Picture of a two story house with a basement. The house has a stairway. This may be a photograph, picture or drawn on a blackboard or tablet. Pitch pipe.
4. The pupil is instructed to imitate the therapist in "placing voice" at different levels within the room, such as on the floor, on the ceiling, etc. The therapist may wish to record the activity.	Tape recorder (optional)
5. The pupil is presented with a shoe box to convert into a doll house. The therapist produces speech that indicates acceptable and unacceptable voice qualities. Each time the pupil recognizes acceptable voice quality, a piece of furniture is placed within the doll house. This continues until all of the furniture is inside the house. The therapist may then wish to tape record the pupil's voice for self-evaluation.	Shoe box Assorted pieces of doll house furniture Tape recorder (optional)

BREATHING AND RELAXATION

Procedure	Materials and Construction
1. The pupil is instructed to imitate the limpness of a rag doll. For example, the pupil bends at the waist, droops arms and legs, or sways with the doll. The therapist moves the doll as the pupil moves his own body.	Rag doll

Procedure	Materials and Construction
2. The pupil stands at an angle against a wall, making sure that his knees and neck are not bending. The pupil will begin vocalizing by counting or reciting. As he proceeds, the therapist gradually brings him away from the wall to an erect standing position. The pupil is asked to discriminate vocal change as the body position changed.	Wall space
3. The therapist demonstrates some essentials of correct breathing for speech, such as (1) relaxed and level shoulders; (2) steady expansion of the thorax through action of the thoracic muscles; (3) control of the muscles of exhalation chiefly by resisting the pull of the abdominal muscles, thereby holding the diaphragm and the costal cage muscles to a slow, steady return to a position of rest; and (4) relaxation of the jaw and wide oral aperture. The pupil participates in the activities after they have been demonstrated by the therapist.	
4. The pupil counts from one to five, increasing in loudness with each step, but keeping the pitch constant. The pupil then reverses the procedure, by decreasing the amount of loudness.	
5. The pupils and the therapist build brief outlines for role-playing. Characters and situations should be removed from the pupils' personal lives. The pupils then choose a scene to perform. The therapist encourages spontaneous conversation, placing no emphasis on how the pupils' vocalizations sound.	Pencil and paper Suggestions for short dramatic scenes, such as: (1) an old man comes upon a little boy picking up apples in a yard; (2) the owner of a house sees a boy throwing snowballs at his car that is parked in the

Procedure	Materials and Construction
5. (cont.) All effort is centered on creating an atmosphere where pupils can express their feelings and thoughts within the boundaries of the characters that they are portraying. The same scene may be re-enacted several times with the pupils changing roles or adjusting the situations slightly.	driveway; (3) a person is caught fishing or hunting on private property; (4) a boy tries to collect money from various members of a neighborhood ball team in order to pay for a window broken during practice; or (5) an astronaut who has just landed his space ship on Mars meets a "person" who orders him to leave.

FINDING THE NEW VOICE

Procedure	Materials and Construction
1. The pupil is instructed to hold a conversation with the therapist while wearing head phones that are supplying background noise. The therapist increases the loudness level of the background noise, as the pupil is talking. The therapist abruptly eliminates the noise and instructs the pupil to observe how loud he was speaking when the noise stopped. The pupil then attempts to achieve the same loudness level in the absence of any background noise. The therapist may wish to tape record this activity.	Head phones Tape recorder Pre-recorded background or masking noise that will be played through the head phones Second tape recorder
2. The pupil is instructed to (1) count slowly to five: 1-2-3-4-5; (2) change the rhythem: 1-2-$\overset{3}{\ }$-4-5, 1-2-3-$\overset{4}{\ }$-5, 1-$\overset{2}{\ }$-3-4-5-, $\overset{1}{\ }$-2-3-4-5, 1-2-3-4-5; (3) count slowly and evenly to ten, 1-2-3-4-5-6-7-8-9-10; and (4) vary the inflection while repeating the above activity.	Blackboard and chalk (The therapist may write the numbers and indicate the change of rhythm.)

Procedure	Materials and Construction
2. (cont.) The pupil is then instructed to compose simple sentences to repeat aloud. (Example: It is a rainy day.) Vocal inflection is varied in the same way as when counting aloud.	
3. The pupil is instructed to alternately pinch and release the nostrils while sounding a vowel sound. The therapist has him observe the quality change when the nares are constricted. (2)	
4. The pupil is instructed to play his optimum tone on the piano, and vocalize the tone unassisted. The pupil then begins counting, using this pitch. He gradually expands the pitch range up and down a scale. Prior to this activity, the therapist has helped the pupil to determine his natural pitch.	Piano
5. Wearing head phones, the pupil is instructed to begin vocalizing. The therapist introduces masking noise, gradually increasing the volume. The therapist then explains that without the "ear-voice-reflex" the vocal intensity will automatically increase. The therapist tape records the vocalizations (10).	Head phone adaptor Two (2) tape recorders Pre-recorded masking noise
6. Together, the therapist and the pupil blow a tone on their pitch pipes. The pupil then hums up the scale from the tone played until the voice becomes strained. He then repeats, humming down the scale. The pupil is instructed to locate the tone that has the most resonance and can be sustained with ease. The therapist diminishes the tone-stimulus until the pupil can produce the sound alone.	Two (2) pitch pipes

Procedures	Materials and Construction
7. The pupil is instructed to: (1) count up and down the scale; (2) sing up and down the scale; (3) count to ten in a whisper; (4) count in a soft "indoor" voice; (5) repeat several sentences in a whisper, in an "indoor" voice, and then in an "outdoor" voice.	Tape recorder (optional)
8. The pupil sings down to the lowest note comfortably produced while the therapist plays notes on the piano. The therapist designates this low tone as "Do." The pupil then sings up to "So." This should be a close approximation of the natural pitch. The pupil repeats the exercise unaccompanied.	Piano
9. The pupil plays the previously determined optimum tone on the piano. The therapist then speaks in a monotone, paralleling the designated tone. Using sentences, the pupil attempts to vocalize on pitch in unison with the therapist. A piano may be used as a second reinforcement. Together, they repeat the activity several times. The pupil then produces the sentences unassisted.	Piano Reading material
10. The pupil reads as the therapist turns up the volume of the record being played. The pupil is instructed to increase vocal volume until his speech can be heard above the record. When the vocal volume is sufficiently increased, the therapist turns down the record while the pupil maintains the loudness unassisted. The therapist discusses with the pupil the physical activity involved with this technique.	Record player Records Reading material

Procedure	Materials and Construction
11. The pupil is instructed to decrease intensity while vocalizing a yawn or a sigh. This activity is helpful in locating the pupil's natural pitch. When the activity is completed, the pupil is instructed to clear his throat.	
12. The pupil is instructed to begin counting while forcibly bringing his fist into his hand with the vocalization of each number. This physical action of exerting energy will often carry over into diaphragmatic muscles and bring about a voice change.	Tape recorder (optional)
13. The therapist instructs the pupil to write while speaking with a pitch variation. The pupils holds chalk or a pencil, moving it up and down, vocalizing in a pattern similarly. (5)	Chalk and blackboard, or Pencil and paper

STABILIZING THE NEW VOICE

Procedure	Materials and Construction

The therapist may instruct the pupil to use his "new voice" only in therapy sessions until it becomes more stablized.

For the duration of this period of stabilization, the therapist may provide a variety of reinforcing techniques which might include the suggestions listed below. (9)

1. The pupil is instructed to vocalize at a normal speed while wearing head phones that are supplying masking noise into his ears. This will cause him to rely upon vocal posture and muscle tensions at the time of vocalization. The therapist may tape record this activity.	Two (2) tape recorders Pre-recorded masking noise Head phones

Procedures	Materials and Construction
2. Using a tape recorder, the pupil is instructed to talk about himself. This may help him to relate the "new voice" to himself.	Tape recorder (opional)
3. The therapist provides interesting discussion topics for the pupil to stimulate his thinking as well as reinforce the "new voice." The therapist may tape record this activity.	Tape recorder (optional)
4. The therapist instructs the pupil to whisper or pantomime speech, later repeating the activity using the "new voice."	

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IIIe

CLEFT PALATE

SLDR

DISORDERS OF CLEFT PALATE AND THERAPEUTIC VIEWPOINT

ETIOLOGY

According to authorities, the etiology for cleft palate speech is of two major types: the congenital and the acquired. "Congenital cleft palate is a condition that begins during the fetal life of the child and manifests itself at birth.... Acquired cleft palate, whether of pathological or of traumatic origin, is a condition that ordinarily appears after the birth of the individual."

CHARACTERISTICS

The cleft palate patient presents speech that is characterized by nasal substitutions and distortions for most of the fricative and plosive sounds. Vowel sounds are usually nasal, and the glottal stop, or catch, is usually present. During speech production, one often sees facial grimaces associated with cleft palate speech such as depressing the alae of the nose in an attempt to constrict the nostrils, thus compensating for the failure of closure in the nasal port. The articulatory errors will vary with the patient and will depend on when he began to talk, when the surgical or artifical closure was made, and his own satisfaction with the acoustic by-product of voice production. Such factors as possible hearing loss (something which should not be overlooked in these cases, since the incidence is high) and mental ability must be dealt with as in any other case. The mobility of the lips, the occlusion of the teeth, the spacing of the teeth, and accompanying compensatory movements that result must be dealt with. Certainly the major problem is to get the child by direct and/or indirect approach to learn to close off the oral from the nasal cavity and direct his speech except for "m", "n", and "ng" through the oral cavity.

THERAPEUTIC VIEWPOINT

Most of the literature recommends various blowing exercises to strengthen the muscles in post-operative cases, learning to clear the nasal passages by velar sucking, etc. All are aimed at teaching the child to use his speech appliance efficiently or to elevate the soft palate that the surgeon has provided. When this is accomplished, attention is given to the correction of articulatory errors; in this case it also implies teaching the child to direct the air stream through the mouth to eliminate nasal substitutions. Elimination of facial grimaces, the glottal stop, and other inaccuracies in speech production come in for attention. Accompanying any program that is designed to rehabilitate the child and not just his speech is a great deal of psychotherapy directed to care for the personality, emotional and psychological problems that are a major part of the constellation. Tendencies toward withdrawal, anti-social behavior, and other personality problems are a part of the whole picture, and group therapy as well as individual counseling contributes toward total rehabilitation.

The foregoing is a brief account of a typical program of therapy recounted in books. It is understood that while objectives are similar, there are treatments which differ from the traditional approach. Consequently, a departure from the usual practice is evident. The blowing exercises, excerises and kinesthetic practices designed at directing the patient's attention to closure of the palate have fallen into disuse. This is probably due to the fact that both plastic surgeons and prosthodontics have become more refined. Typically, velopharyngeal closure can be accomplished, without the use of speech therapy, either surgically or prosthetically. The standard approach to articulation correction is effective.

It is further recommended that the production of good speech in cleft palate cases cannot be restricted to one profession. It requires the closest possible cooperation between the plastic surgeon, oral surgeon, orthodontist, prosthodontist, and the speech therapist.

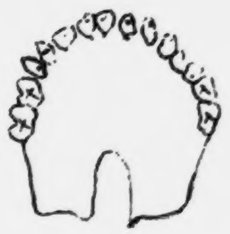
OBJECTIVES

We can thus summarize the objectives of cleft palate therapy as the following:

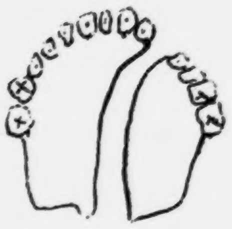
1. Development of a flexible articulatory mechanism, particularly of the front of the mouth
2. Accurate production of speech sounds through phonetic education
3. Improved action of the velopharyngeal sphincter
4. Elimination of residual nasality through ear training and vocal training procedures
5. Direction of the air flow outward through the mouth opening
6. Elimination of the lalling type of utterance and activation of the tongue-tip during phonation
7. Controlled phonation
8. Removal of facial grimaces

VEAU'S CLASSIFICATION

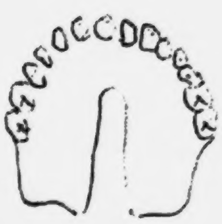
Type I	Soft palate cleft only
Type II	Soft palate and hard palate cleft
Type III	Soft palate and hard palate cleft, as in Type II, but with a unilateral cleft extending into the upper alveolar ridge and upper lip
Type IV	Soft palate and hard palate cleft, as in Type II, but with a bilateral cleft in the upper alveolar ridge and upper lip



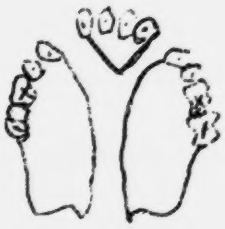
I



III



II



IV

EVALUATION AND THERAPY FOR DISORDERS OF CLEFT PALATE

Check List

During the course of therapy it is necessary to evaluate and further describe the developmental pathology of the disorder of cleft palate. Listed below are a number of suggested areas of investigation. Although not sequential or all-inclusive, they may guide the therapist in directing effective therapy.

In the course of evaluation and therapy:

______ make an oral examination noting dentition, deformity of alveolar ridge, position of cleft, length and activity of soft palate, use of an obturator (and fit of obturator), conformation of the hard palate, competancy of the palatopharyngeal sphincter

______ check the flexibility and precision of the muscular action of the tongue, lips, jaw, and face

______ evaluate the position of the tongue. Is the tension or center of activity in the posterior part of the mouth or the front of the mouth--specifically, at the dorsum of the tongue or at the tongue-tip?

______ check the ability of the pupil to retain air in the mouth and the swallowing pattern of the pupil

______ evaluate the direction of the breath stream as to the nasal cavity and front of the mouth emission

______ analyze sound production as to substitutions, distortions, or omissions, and evaluate such sound as to air pressure and amount of nasal emission (glottal stops and pharyngeal fricatives)

______ administer tests of verbal comprehension, phonation, and breath control

______ obtain a careful analysis of speech development

______ administer or obtain results of an audiometric examination

______ secure a case history

______ hold parent conferences

______ investigate parental attitude toward the child and his handicap

______ investigate the environment and personality of the pupil

______ make contact with the surgeon or hospital that has been associated with the rehabilitation of the cleft (obtain release prior to request)

______ make contact with the orthodontist if the child is receiving dental rehabilitation (obtain release)

______ make contact with the classroom teacher acting as a resource person within the school for explaining and interpreting child's handicap and his medical history

______ record samples of speech for the purpose of evaluating and determining progress

CATEGORIES OF THERAPEUTIC TECHNIQUES

Therapeutic Techniques for the Treatment of the Cleft Palate Child

______ activating tongue-tip

______ activiting velopharyngeal muscles

______ directing air stream

______ improving articulation

______ increasing lip movement

______ reducing nasality

SUGGESTED DIAGNOSITC EVALUATIONS

TYPE OF TEST	PURPOSE OF TEST
Examination for nasality[1] (b)	To evaluate abnormal resonance
Peabody Picture Vocabulary Test (b)	To evaluate language development and verbal comprehension
Measures of Speech and Language Development (b)	To evaluate language development and verbal comprehension
Picture Articulation Tests (See ARTICULATION)	To evaluate sound distortion, omission, and substitution with and without nostrils occluded
Speech Mechanism Examination (b)	To evaluate structure, function, and adequacy for speech (lips, teeth, tongue, hard palate, velopharyngeal port mechanism, oropharynx fauces, nasal cavities, breathing mechanism)
Tests of phonation and breath control (a)	To evaluate breathing habits, tension in the larynx, pitch range, and unvocalized breath
Analysis of ability to make a snorting sound, to hold air in the mouth, to approximate a sneeze and halt it at midway point	To evaluate competency of sphincter
Analysis of ability to drink water from a fountain, to blow a horn or whistle, to blow out cheeks and explode the air through the lips, to achieve movement of soft palate while repeating "ah" and to utter properly any of the fricative and plosive sounds	To evaluate competency of velopharyngeal closure
Analysis of nasal emission of air during production of pressure sounds (p), (t), (s), (ts), and (i). If these sounds do not show alternation in quality as the nostrils are alternately closed and released, velar functioning cannot be a serious problem for speech	To evaluate competency of velopharyngeal closure

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[1] Letters in parentheses refers to bibliography listed on pages 83-84.

TERMINOLOGY ASSOCIATED WITH CLEFT PALATE DISORDER

Alveolar (rugal ridge)	pertaining to ridges of the mandible and maxilla that overlie the roots of the teeth
Bifid uvula	division of the posterior free margin of the soft palate into two branches
Dorsum	the back superior surface of the tongue
Flap method	operation in which a flap of tissue, obtained from some of the body, is used to bridge and close the cleft
Glottal stop	tensing the laryngeal muscles to produce a forcible plosive sound, maybe substituted for any or all of the plosive consonants
Hard palate	the bony anterior part of the roof of the mouth which separates the oral and nasal cavities
Levator palati	a muscle which raises the soft palate
Maxilla	the bond that forms the upper jaw
Median suture	closure of the cleft by an operation where the edges of the cleft are inflamed and then sutured in the middle line
Mucous membrane	a lubricating membrane lining all of the passages and orifices of the body that communicate with its outer surface
Nares	the nostrils
Nasal grimace	the alae nasi are contracted in an attempt to close the nostrils in compensation for inability to obtain naso-pharyngeal closure
Nasopharynx	that part of the pharynx above and behind the soft palate
Nasopharyngeal snort	an effort to impede the flow of air through the nose by blocking it either at the level of the mouth or at the level of the larynx
Obturator	a prosthetic appliance similar to a dental plate which is worn by the patient to form a roof to the mouth and cover the cleft
Oropharynx	that portion of the pharynx extending from the level of the hyoid bone to the soft palate

Palatopharyngeus muscle	a muscle originating in the soft palate and inserted in the posterior border of the thyroid cartilage and in the pharynx; it acts to narrow the fauces and aids in velopharyngeal closure
Palatopharyngeal sphincter	the action of the palatopharyngeal muscles which helps close the nasopharyngeal airway, preventing the passage of air from the mouth and pharynx into the nostrils
Passavant's ridge	a ridge projecting from the posterior and lateral walls of the pharynx at the level of the soft palate; it acts with the palate in closing the opening of the nasopharynx
Pharyngeal fricatives	the substitution by constrictions made in the pharynx or larynx for the normal oral fricatives
Pillars of fauces (anterior/posterior)	two curved folds of mucous membrane arching downwards and outwards from the uvula on each side; between these arches on either side is a space occupied by the tonsils
Push back	an operation for the distal displacement of the mucous membrane of the palatal tissue, thus bringing the soft palate in closer proximity to the posterior pharyngeal wall
Rhinolalia aperta	speech characterized by open nasal speech, vowels with a nasal tone, altered consonants, a marked inability to produce "s" sound, breathlessness due to loss of air, rapid speech with avoidance of difficult words
Submucous cleft	cleft extending into the bone of the hard palate, but with the covering intact; may be seen as an indentation underlying the mucous membrane, or may be detected by feeling with the finger
Uvula	a soft cone-shaped structure which projects from the middle of the posterior free margin of the soft palate
Velopharyngeal closure	the action of the velum and pharnyn which partitions the phonated air properly between the oral and nasal passages, thus providing appropriate nasality
Velum (soft palate)	the posterior portion of the roof of the mouth, laterally attached to the wall of the pharynx and ending posteriorly in a free margin; part of the valvular mechanism for closing the port into the nasopharynx

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(2) Johnson, Wendell; Darley, F. L.; and Spriesterbach, D. C. Diagnostic Methods in Speech Pathology. New York: Harper & Row, Publishers. 1963.

(3) Kessler, Ralph. "Cleft Palate". Towson, Maryland: Board of Education of Baltimore County, Department of Special Education. 1956.

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(5) Levine, Nathaniel M. Voice & Speech Disorders: Medical Aspects. Springfield, Illinois. Charles C. Thomas. 1962.

(6) McDonald, Eugene T., Ed.D. Bright Promise. National Society for Crippled Children and Adults, Inc. 1959.

(7) Morley, Mauriel E. Cleft Palate and Speech. 5th Ed. Baltimore: Williams & Wilkins Co. 1962.

(8) Snyder, Gilbert, M.D.; Berkowitz, Samuel, D.D.S.; Bzock, Kenneth, Ph.D.; and Stool, Sylvan, M.D. Your Cleft Lip and Palate Child: A basic guide for parents. Florida Cleft Palate Association and Mead Johnson Laboratories. For free copy write: Mead Johnson Laboratories, Dept. 822, Evansville, Indiana 47721

(9) Spriesterbach, D. C. "Criteria for Establishing the Need for a Speech Appliance." JSHD. Vol. 21, 1956. pp. 356-370.

(10) Travis, Lee E. Handbook of Speech Pathology. New York: Appleton, Century-Croft, Inc. 1958.

(11) Van Riper, Charles. Speech Correction Principles & Methods. Englewood Cliffs, N. J.: Prentice-Hall, Inc. 1954.

(12) Van Riper, Charles, and Irwin, John V. Voice and Articulation. Englewood Cliffs, N. J.: Prentice-Hall, Inc. 1958.

(13) West, Robert; Ansberry, Merle; and Carr, Anna. The Rehabilitation of Speech. New York: Harper & Row, Publishers. 1957.

(14) Westlake, Harold, and Rutherford, David. Cleft Palate. Englewood Cliffs, N. J.: Prentice-Hall, Inc. (Foundations of Speech Pathology Series). 1966.

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(a) Berry, Mildred F., and Eisenson, Jon. Speech Disorders, Principles and Practices of Therapy. Appendix: A Cleft Palate Test Form. Voice Disorder Test Form.

(b) Johnson, Darley, and Spriestersbach, D. C. Diagnostic Methods in Speech Pathology. New York: Harper & Row, Publishers. 1963.

(c) Morris, H.; Spriestersbach, D. C.; and Darley, F. "An Articulation Test for Assessing Competency of Velopharyngeal Closure." JSHD. Vol. 4, pp. 48-55.

(d) Peabody Picture Vocabulary Test. American Guidance Service, Inc. Philadelphia.

IIIf

SPEECH IMPROVEMENT

SLDR

THE PROBLEM OF SPEECH IMPROVEMENT

One universally accepted educational goal is the development of the ability of individuals to communicate effectively. In the lower elementary grades the children who have speech and language problems which warrant special consideration may be divided into two groups. The needs of one group, the more numerous of the two, may be met by a comprehensive instructional program designed to improve the general speech and language skills of the group and to bring them to an acceptable level. Such a program has often been characterized by the term "speech improvement". The smaller number of children in the second group present relatively well-defined problems of impaired speech and language functioning. These problems are usually of a significantly handicapping character and can be dealt with adequately only in a direct therapy situation. The solution of the problems of the second group is the responsibility of the speech therapist.

Since speech is learned by the child in a defined environment, it will reflect all of the influences and experiences he has had in the home, his peer relationships, his own perceptions of himself, and his attitudes. What he has been able to learn will be dependent upon what physical and intellectual attributes he has and his psychological readiness.

The speech therapist will sometimes assist the classroom teacher with "speech improvement" by:

1. Recommending available materials

2. Suggesting activities

3. Interpreting appropriate techniques

At other times she may have time and feel the necessity of doing the actual work in the classroom. Each situation should be left to the discretion of the therapist.

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Resource Material for the Speech and Hearing Therapist

The following is a list of material to help the speech and hearing therapist in consultative activities.

(1) Batten, Ray. "Two Methods for Presenting Information on Speech and Language Development." Journal of Speech and Hearing Disorders. Vol. 27: 1 (February 1962). p. 17.

(2) Breinholt, Verna. "The New Look in Speech Education." Exceptional Children. Vol. 22: 5 (February 1956).

(3) Metz, F. Elizabeth. "Poverty, Early Language Deprivation, and Learning Ability." Elementary English. (February 1966) p. 129.

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(5) Somers, R.; Copetas, F.; and others. "Effects of Various Durations of Speech Improvement Upon Articulation and Reading." Journal of Speech and Hearing Disorders. Vol. 26: 1 (February 1961) p. 27; Vol. 27: 1 (February 1962). p. 54.

(6) Webb, C. and Parnell, J. "Unit Teaching in Speech and Hearing at the Elementary School Level." Journal of Speech and Hearing Disorders. Vol. 25: 3 (August 1960). p. 302-303.

(7) Willson, Betty Ann. "The Development and Evaluation of a Speech Improvement Program for Kindergarten Children." Journal of Speech and Hearing Disorders. Vol. 19: 1 (March 1954).

(8) Zedler, Empress Young. "Effect of Phonic Training on Sound Discrimination and Spelling Performance." Journal of Speech and Hearing Disorders. Vol. 21: 2 (June 1956). p. 245.

Resource Material for the Classroom Teacher

The following is a list of materials which the speech and hearing therapist may suggest to the classroom teacher.

(1) Bryngleson, B. and Glaspey, E. Improving Articulation. Chicago: Scott, Foresman and Company. 1962.

(A teacher's manual defining defective articulation and explaining how to use the Speech Improvement Cards.)

(2) Byrne, Margaret C. The Child Speaks. New York: Harper & Row, Publishers. 1965.

(A speech improvement program for kindergarten and first grade)

(3) McCullough, Grace A. Speech Improvement Work and Practice Book. Magnolia, Massachusetts: Expression Co., Publishers. 1961.

(Includes general rules and drills for daily practice and special sound studies.)

(4) Monroe, Marion and Greet, W. Cabell. My Little Pictionary. Chicago: Scott, Foresman and Company. 1962.

(Collection of words and colorful illustrations grouped according to people, animals, "what we do and did," things and places.)

(5) Nemoy, E. M. and Davis, S. F. The Correction of Defective Consonant Sounds. Magnolia, Massachusetts: Expression Co., Publishers. 1945.

(Summarizes principles involved in production of consonant sounds; provides suggested techniques for ear training; and includes drills for syllables, words, and connected speech.)

(6) Schoolfield, Lucille D. Better Speech and Better Reading - A Practice Book. Magnolia, Massachusetts: Expression Co., Publishers. n.d.

(Provides word lists, drill sentences, and poems for all speech sounds.)

(7) Scott, Louise B. and Thompson, Jesse J. Talking Time. New York: McGraw-Hill Book Company. 1951.

(Stories, poems, exercises, and word games emphasizing specific sounds. Also includes an explanation of sound production. Has great appeal to slow primary children.)

(8) Tonn, Martin. Animal Adventures. Minneapolis, Minnesota: T. S. Denison & Company 1962.

(Provides low vocabulary and high interst level stories which stress a particular speech sound.)

(9) Zedler, Empress Young. Listening for Speech Sounds. New York: Harper & Row, Publishers. 1955.

(A collection of stories placing emphasis on specific sounds. Suggested word games for follow-up.)

Filmstrips

(a) Scott, Louise B. and Thompson, Jesse J. Talking Time Film Strips. St. Louis: Webster Publishing Company.

(Color-visual presentation of the speech mechanism, sounds in isolation, words, and sentences. Can be used for auditory and visual discrimination with suggested follow-up activities.)

Records

The following is a list of records which the speech and hearing therapist may suggest to the classroom teacher.

(a) A Study in Aural Imagery. American Book Company and Decca Records.

(Detailed stories for aural imagery. Develops creative thought and expression. Suitable for intermediate grades.)

(b) Fun With Speech. Albums I and II. Encyclopedia Brittanica.

(Presents individual sounds through recognition, discrimination, and production with stories used as follow-up.)

(c) Purdy, Helen. Downtown Story--Laundry Story--Bakery Story. 119 N. Highland Avenue, Clearwater, Florida: Folkways Records.

(Stimulus stories for language development.)

(d) How You Talk. American Book Company and Decca Records.

(High interest level for pupils in grades one and two.)

(e) Listening Time. Albums I, II, and III. St. Louis: Webster Publishing Co.

(Supplementing works included in the book, Talking Time. May be used as a follow-up to stories in the book. Album III reviews sounds previously learned.)

(f) What's Its Name. (2 records) Minneapolis: Maico Company

(Ear training for recognizing and discriminating gross sounds and speech sounds.)

(g) Sounds Around Us. (3 records) Chicago: Scott, Foresman and Company.

(Considers how sounds develop into stories through listening. Excellent as an ear training technique.)

IIIg

CEREBRAL PALSY

SLDR

THE DISORDER OF CEREBRAL PALSY
AND THERAPEUTIC VIEWPOINTS

Cerebral palsy is a group of conditions having in common a disorder of motor control originating in the brain. The motor disability may involve many parts of the body or only a limited group of muscles.

ETIOLOGY

Factors causing cerebral palsy are generally divided into three categories: prenatal, paranatal, and postnatal. Recent literature indicates that mechanical birth injuries are not quite as common causally as was originally thought, and more significance is now attached to hazards occurring in early stages of fetal development and to problems of oxygen deficiency which may occur at any time before, during, or after birth.

Among the prenatal causes are infections and metabolic diseases, such as toxoplasmosis, severe anemia, German measles, and anoxia resulting from Rh factor. The most common cause of cerebral palsy paranatally is subdural hemorrhage resulting from the breaking of delicate blood vessels of the brain. Among the most common postnatal causes are mechanical injury; circulatory defects and vascular conditions; infectious diseases, such as scarlet fever and whooping cough.[1] (1)

CHARACTERISTICS

The speech of cerebral palsied children may be slow, jerky, and irregular, labored or effortful, and rather unintelligible. Such characteristics may be referred to as "cerebral palsy speech." Because of the extreme variability of the speech of the cerebral palsied children, generalizations regarding differences according to type of cerebral palsy are not reliable when only the acoustic aspects are observed. As much acoustic difference may exist between two athetoids, for example, as between an athetoid and a spastic. It is probable that both acoustic and visible clues are necessary for one to recognize accurately the type of cerebral palsy speech, and even then, such an observation may not be reliable without medical diagnostic verification.

AIMS OF SPEECH THERAPY FOR THE CEREBRAL PALSIED

Speech education for children handicapped by cerebral palsy should have as its ultimate goal understandable speech; that is, acceptable speech within the limits of individual capabilities. The specific aims of speech therapy for the cerebral palsied child are:

1. To help him grow mentally, neurologically, physically, and emotionally to the greatest possible extent

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[1] Numbers and letters in parentheses refer to bibliography listed on pages 100-101.

2. To assist him to develop the most effective speech of which he is capable
3. To guide him to the successful use of his speech in life situations
4. To help him realize that his crippled condition is a handicap only so far as he permits it to be (2)

DIAGNOSIS OF DISORDERS OF CEREBRAL PALSY

The first approximations that the therapist makes of the cerebral palsied child's abilities are usually in terms of how such abilities compare with normal development. As exploration proceeds in greater detail, and therapeutic procedures are outlined, the examiner is forced to make an estimate of "efficiency" rather than "normality" for any given child. Complete evaluation must be performed by a team of experts, sometimes over a rather long period of time.

The following tests may be helpful in assessing some of the abilities of the cerebral palsied child.

Test	Description
Vineland Social Maturity Scale, in Mecham et al. (4)	This test measures social competence in terms of performance in self-help, communication, locomotion, occupation
Verbal Language Development Scale, in Mecham, et al. (4)	The scale measures levels of verbal language
Picture Articulation Test for Young Children, in Mecham et al. (4)	Pictures and words used in this type of test appear on word frequency lists as ones with which young children are very familiar. The pictures can be used with most young non-reading children
Mecham, A Nucleus Vocabulary for Speech Therapy (a)	This vocabulary list is used in building oral language skills of the cerebral palsied child
Parallel Test of Sound Discrimination for Use with Cerebral Palsied Children, by Orvis C. Irwin and Paul J. Jenson, in Mecham et al. (4)	This test permits response through any type of verbal or non-verbal answer

DIAGNOSTIC TECHNIQUES FOR CEREBRAL PALSY

A. Voice

1. Are intensity and intensity change adequate for the average speaking situations?
2. Is the pitch flexible and appropriate for the age and sex of the individual?
3. Is the quality clear, resonant, and pleasant to listen to?
4. Is the quality unusually nasal or hoarse, etc.?
5. Can a steady tone be prolonged at least 10 seconds?
6. Are variations in the voice pitch and intensity smooth and controlled, or jerky and irregular?
7. Do prosodic aspects of the voice sound normal, or does the child sound as if he has a peculiar accent?
8. Can the child coordinate voice with articulation, that is, produce appropriate voice for voiced sounds and eliminate voice on voiceless sounds?
9. Does the voice sound metallic or raspy?
10. Does voice pitch break into a falsetto occasionally?

B. Functional Anomalies Frequently Found in Cerebral Palsy

1. Irregular breathing cycle
2. Thoracic-abdominal opposition, or "reversed breathing"
3. Abnormally shallow breathing
4. Athetotic movements in breathing
5. Respiratory-laryngeal incoordination
6. Stertorous breathing due to clonic or tone pharyngeal occlusions
7. Severe tension in the breathing musculature
8. Spasmodic constriction or dilation of the glottis due to overcontraction of the laryngeal constrictors or dilators
9. Monotonous voice pitch and intensity patterns
10. Athetosis in the pharyngeal musculature

11. Inability to elevate tongue tip

12. Large clumsy tongue

13. Athetotic involvements of the tongue and/or mandible

14. Overt lingual apraxia, or inaccuracy of voluntary tongue movement

15. Retracted tongue

16. Inert or contracted tongue

17. Slow tongue movement

18. Lingual stretch reflex

19. Mandibular stretch reflex

20. Tremor of the tongue or mandible

21. Frequent or constant involuntary elevation of the mandible

22. Frequent or constant involuntary depression of mandible

23. Hyperrhinolalia due to lack of velar closure

24. Athetosis of the velum

25. Bizarre opening and closing of the lips

26. Involuntary facial movements and facial grimaces

27. Athetosis in the proximal arm muscles and muscles of the neck which overflow into the speech mechanism

28. Abnormal function of chewing, sucking, and swallowing

29. Drooling

30. Gross functional defects of the muscles of the eyes (4)

CLASSIFICATIONS OF CEREBRAL PALSY

During the orthopedic examination, diagnosis is made of the location of neuromuscular involvement (indicated by the terms monoplegia, paraplegia, hemiplegia, triplegia, or quadriplegia), the type of neuromuscular involvement (indicated by the terms spasticity, athetosis, ataxia, tremor, or rigidity), and the severity of neuromuscular involvement (indicated as mild, moderate, or severe).

Example:

Place	Type	Severity
left hemiplegia	spasticity	moderate

Spasticity

Spasticity is characterized primarily by increased muscular tension which is accompanied by an increased stretch reflex. The heightened muscle tone and increased stretch prevent normally performed motion. (4)

Athetosis

Athetosis is characterized by an abnormal amount and type of involuntary movement; normal reflexes; and uncontrolled involuntary and incoordinate motions with varying degrees of tension. (3)

Ataxia

Ataxia is characterized by a disturbance of directional control and balance. Walking seems to be difficult and devoid of the sense of direction and space orientation, and falling is very frequent. (4)

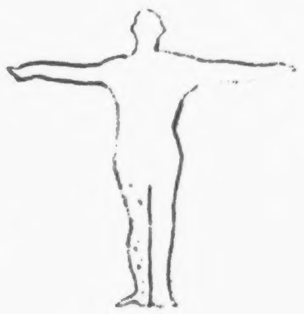
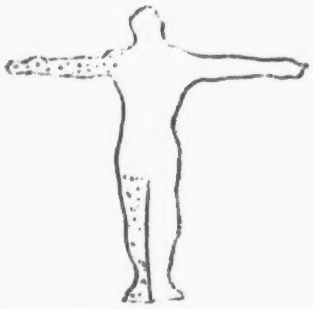
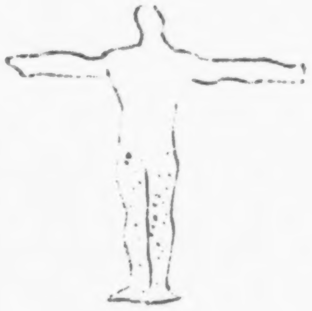
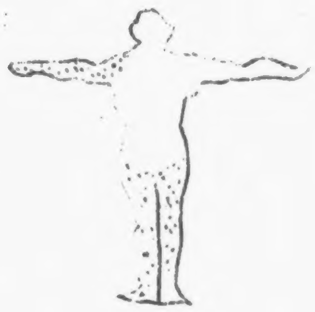
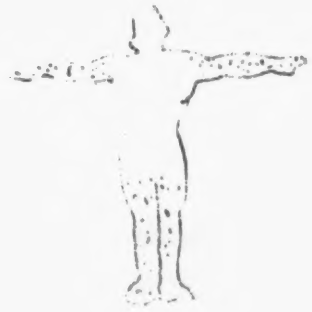
Rigidity

Rigidity is similar in some respects to spasticity; but the stretch reflex is absent, the muscle stiffness is continuous, and movement resembles that of a lead pipe. The rigidity is especially apparent in posture, either of a flexed or extended type. (4)

Tremor

Tremor is characterized by a rhythmic alternating or pendular pattern of the involved muscles, which may be either intentional or non-intentional and controllable or uncontrollable.

TOPOLOGY OF CEREBRAL PALSY

TYPE	INVOLVEMENT	DESCRIPTION
monoplegia		one limb involved; usually a leg
hemiplegia		one side involved
paraplegia		legs and lower trunk involved
triplegia		three limbs involved; usually both legs and one arm
quadriplegia		all four quadrants involved

EVALUATION AND THERAPY FOR DISORDERS OF CEREBRAL PALSY

Check List

During the course of therapy it is necessary to evaluate and further describe the developmental pathology of the disorder of cerebral palsy. Listed below are a number of suggested areas of investigation. Although not sequential or all-inclusive, they may guide the therapist in directing effective therapy.

In the course of evaluation and therapy:

______ secure a case history

______ hold parent conferences

______ secure a medical report on the physical examination of the child

______ obtain a psychological report

______ obtain an evaluation of social maturity

______ secure the results of a test of laterality

______ estimate the level or oral language development

______ evaluate articulation

______ evaluate intelligibility

______ evaluate the pupil's voice pattern and quality

______ appraise the structure and function of the speech mechanism

______ administer or obtain the results of an audiometric evaluation

______ make contact with other school personnel in regard to the child's problems

______ consult professional personnel who may have pertinent information regarding the child's problems

______ check periodically with teachers and parents to determine effectiveness of therapy

______ make tape recordings of speech at beginning of therapy and at intermittent intervals during therapy

______ make recordings for listening to auditory characteristics of speech

CATEGORIES OF THERAPEUTIC TECHNIQUES

The following is a list of categories of techniques which may be used in the therapeutic treatment of the cerebral palsied child:

______ Breath control

______ Control of drooling

______ Ear training

______ Improving articulation

______ Relaxation

______ Resistive therapy

______ Stabilization

______ Training in sucking, chewing, swallowing

______ Voice training

TERMINOLOGY ASSOCIATED WITH CEREBRAL PALSY

The following is a list of terminology which may be used in the diagnosis and/or treatment of cerebral palsy.

Adiadochokinesis....	inability to perform rapid alternating movements
Agnosia.............	an inadequacy of perception in which a sensory impression fails to be understood or ceases to have meaning
Ambulatory..........	pertaining to or capability of walking
Anomaly.............	anything unusual or irregular or contrary to the general rule
Anoxemia............	deficiency in the oxygen content of the blood (oxygen want)
Agraphia............	difficulty or inability
Alexia..............	inability to read
Apraxia.............	a brain disorder characterized by loss of ability to manipulate and use common objects and to execute planned movements
Atonic..............	characterized by a lack of bodily tone, weakness of the body, or of a muscle or of an organ
Clonic..............	denoting a series of alternating contractions and partial relaxation of the same muscle
Diadokokinesia......	the function of arresting one motor impulse and substituting for it one that is diametrically opposite
Diplegia............	paralysis affecting like parts on both sides of the body; bilateral paralysis
Dysarthria..........	difficulty in articulation so that speech becomes indistinct, caused by paralysis of oral musculature
Dysgraphia..........	partial loss of ability to write
Dyslexia............	partial inability to read
Hemiplegia..........	involvement of the lateral one half of the body, i.e., the upper and lower extremity on the same side
Hypernasality.......	excessive and unpleasant resonance in the nasal passages
Hyponasality........	insufficient resonance through the nasal passages

Inhibition	a treatment technique developed by Berta and Karl Bobath. This approach differs radically from others being practiced, and must only be practiced by therapists who have a thorough knowledge of the basic reflex patterns of posture and movement
Monoplegia	involvement (usually) of a leg
Paraplegia	involvement of the legs only
Quadriplegia	involvement of all four extremities
Stertorous	pertaining to breathing which resembles snoring
Subdural	situated under the outermost layer of membrane of the brain or spinal cord
Thoracic-abdominal opposition	"a condition which occurs when the thorax or abdomen makes either inspiratory or expiratory excursions while the other one is doing the reverse, called by Phelps 'reversed breathing'" (1)
Triplegia	involvement of three extremities, usually both legs and one arm
Toxoplasmosis	infection by a protozoan microparasite
Vascular	designating, or of, the vessels or system of vessels for conveying blood

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IIIh

APHASIA

SLDR

CHILDHOOD APHASIA

Controversy Concerning Aphasia in Children: There is a disagreement concerning and the existance of aphasia in children. Among those who agree it exists, there is disagreement about whether or not central nervous system involvement must be clinically demonstrated, and what this disorder should be called.

The term "aphasia" will be used here as a convenience in discussing the commonalities of a group of children.

However, the purpose of this discussion is to describe the language disabilties and behavior patterns of a relatively small number of children and not to provide a handy label for them.

It is well to keep in mind that there is controversy which remains far from being settled; that we still do not really know what occurs to bring about the disturbance in linguistic development; and that therapists employed are not completely satisfactory. It is also important to remember that while the use of a label is sometimes convenient, particularly when abstracting a problem from a group, it is much more useful, at least at this level of knowledge, to describe the specific problems and abilities as well as we can when a particular child is concerned.

What is The Aphasic Child?: As has been previously pointed out, we really do not know the precise answer to that question. Generally, the aphasic child is defined as a child experiencing a linguistic deficit due to brain lesion who is of potentially normal intelligence. The lesion occurs before the child has an opportunity to generate linguistic rules or symbols. Although this child may also experience peripheral sensory or motor disturbance, these are not primarily responsible for his language disabilities. There are many linguistic and behavioral similarities between the adult and child aphasic. There are also some important differences. The primary difference is that the adult has had the language skills and has lost it. The child has never formulated the language. A list of some of the linguistic similarities are listed below:

1. The child may have difficulty with phonemic patterning because he has not built up the storehouse of auditory associations---the adult apraxic has lost the associations.

2. The child may have difficulty in learning the words of the language---the adult has lost the words.

3. The child may learn some single words, but be unable to learn phrase structure---the adult, too, may be able to recognize or express single words, but not phrases. The adult, however, is sometimes able to retrieve a whole phrase, but not the single words in the phrase.

4. The aphasic child or adult may respond appropriately to or be able to use concrete language but experience difficulty with more abstract language.

5. The breakdown in linguistic structure may occur at a higher level, perhaps only in grammatical refinements as tense, case, or gender.

Some behavioral similarities between the two groups are distractability, perseveration, hyperactivity, and emotional lability.

It has been observed in children that when linguistic skills improve, these behavioral symptoms diminish. Some believe that progress in both areas is due to neurological maturation. Others have postulated that the behavior symptoms are secondary to the linguistic deficit.

Diagnostic Purpose and Difficulties: The purpose of the diagnosis is to determine what, if any, linguistic disturbance exists, to separate the linguistic problem from accompanying or secondary disorders, and to decide on a therapeutic approach.

Difficulties encountered in diagnosis of an aphasic child are many. First of all, these children are frequently difficult to test. It is also difficult to determine the optimum level of functioning. The psychologist may have difficulty in determining the intellectual potential and in separating possible causative emotional disturbance and behavior disturbance which is secondary to the language deficit. The child's pediatrician or neurologist may not find definite evidence of brain damage either by neurological examination or electroencephalogram. Often the assumption of potentially normal intellectual functioning must be made only on the psychologist's impression that the child's adoptive behavior is much better than his verbal ability. Sometimes the only evidence of brain injury is the similarity in behavior or reaction to drugs to the behavior of known brain damaged children. Necessarily the diagnosis of the aphasic child must be a team effort. It is the speech therapist's responsibility to describe the child's language and to provide a program of remediation. It is not his responsibility to define the child's intellectual capacity or to decide on the child's neurological integrity. The speech therapist's findings may, however, be helpful to the psychologist and physician in their diagnostic work. The speech therapist in turn profits from their examination results.

Diagnostic Procedure: The child's teacher is the most likely source of referral, and particularly is this is so, it is well to find out first what he has observed in the classroom regarding the child's language and classroom behavior. The speech therapist may ask the teacher to provide him with some notes concerning this or perhaps will be able to observe in the classroom long enough to make his own observations.

In most cases, the next step is testing the child. If the parents have been previously concerned, and have made the concern known to the therapist or teacher, they might be interviewed as the first or second step instead of the third as it will be listed here.

> Record some of the child's spontaneous language and at the same time observe behavior for distractibility, hyperactively, etc. Note what parts of speech are used and the integrity of syntatical and grammatical rules. Try to decide how much of a problem exists and where the errors are made.

Give some directions or commands. Know specifically what is involved in complying with each command and record the response. Attempt to determine the upper limit of receptive proficiency.

The therapist administers the tests that he believes are necessary. This may become a very large battery as the therapist tries to firmly establish what the child can and cannot do. A battery to begin with would include the following:

1. The Peabody Picture Vocabulary Test

2. The Illinois Test of Psycholinguistic Abilities

3. The Wepman Auditory Discrimination Test. If this test proves invalid, some form of picture discrimination test could be used to get an idea of the child's auditory discrimination ability.

4. Reproduction of Geometric Forms from Gesell and the Goodenough Harris Drawing Test could be employed to get an idea of the child's nonverbal functioning. Form boards or structured play are other responsiblities.

If the therapist does not have available the time or materials to provide a thorough diagnosis of a suspected aphasic child, he might want to refer the child to an agency which can provide the thorough diagnostic work-up.

Conferring With the Parents: The therapist will be interested in the prenatal, birth, medical, developmental and social history of the child for possible indications of neurological impairment, how the child has generally developed, and for factors other then neurological impairment either causative or contributory to the child's language impairment.

The child's speech and language development should be carefully explored. When did the child begin saying single words? What were they? Did he learn a few and then move on to phrases? When did he first begin using phrases?---- More complete sentences? How long has he been using his present speech pattern? What circumstances surrounded his speech and language learning? Stimulation? Siblings? Illnesses?

What are the parents' concern about the problem? How do they expect the speech therapist to help them?

Discuss whatever aspects of the child's problem that they can understand and make use of.

Help them learn how to help their child at home. It may become the therapist's responsiblity not only to provide speech and language therapy for the child and demonstrate to the parents how they may help at home, but also to help modify the child's behavior and, for example, help the parents alleviate situations which promote distractibility, trigger hyperactivity, etc. The therapist may need to point out the child's inability to comply with certain demands.

Therapeutic Techniques: Several divergent methods of therapies have been employed with aphasic children. Each approach is successful with many children. No approach is completely satisfactory. Three popular techniques are listed below accompanied by reading references which describe each method briefly:

1. A developmental approach which teaches inner language through play, then teaches a few words receptively until they are overlearned and emerge expressively.

   Myklebust, H. R. "Training Aphasic Children", Volta Review: April, 1955. p. 152.

2. The Association Method which involves:

   a. A phonetic or elemental approach to learning words.

   b. Emphasis on precise articulatory position for each sound.

   c. Careful association of each articulatory position and sound with an appropriate letter symbol(s) of cursive script.

   d. Use of expression as the starting point in building language.

   e. Systematic Sensory-Motor Association. In this approach the child is not expected to understand the meaning of any word until he has first produced that word himself.

   McGinnis, M. A.; Kleffner, F. R.; and Goldstein, R. "Teaching Aphasic Children", Volta Review: June, 1956. p. 239.

3. Programming Techniques. This takes into account all aspects of language learning. Considered are phonology, morphology, syntax, and semantics. The program is constructed on a step-by-step basis to suit the profile of the individual child's strengths and weaknesses. Records are kept of the child's responses and from these the program is changed or rewritten. Positive reinforcement is employed.

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LEARNING DISABILITIES

Definition: Children with learning disabilities are defined as those children with normal or potentially normal intelligence who because of some neuro-psychological factor are noted to have learning disabilities of a perceptual, conceptual, or integrative nature. Children with major sensory and motor deficits such as the blind, the deaf, the cerebral palsied, the mentally retarded, the emotionally disturbed, or children whose learning deficit clearly is of emotional origin without concomitant neuro-psychological factors, are excluded from this category.

It should be noted that minimal brain damage, minimal cerebral dysfunction, and many other terms have been used to describe this disorder. The term learning disability, however, is preferred because diagnosis is made on the basis of symptoms of disordered function and there is not always evidence of specific etiology.

Characteristics: The characteristics of learning disabilities are numerous and encompass broad areas of deficiency; however, it cannot be said that children with these disabilities will exhibit all of the characteristics listed below. It is also unwise to think that every child who exhibits some of these characteristics must have a learning disability. Therefore, a multidisciplinary evaluation is essential before such a diagnosis can be made.

SYMPTOMATOLOGY

IDENTIFICATION OF THE CHILD WITH MINIMAL BRAIN DYSFUNCTION

Several authors note that many of the characteristics tend to improve with the normal maturation of the central nervous system. As the child matures, various complex motor acts and differentiations appear or are more easily acquired.

Variability beyond that expected for age and measured intelligence appears throughout most of the signs and symptoms. This, of course, limits predictability and expands misunderstanding of the child by his parents, peers, teachers, and often the clinicians who work with them.

Ten characteristics most often cited by the various authors, in order of frequency:

1. Hyperactivity
2. Perceptual-motor impairments
3. Emotional lability
4. General coordination deficits
5. Disorders of attention (short attention span, distractibility, perseveration)
6. Impulsivity
7. Disorders of memory and thinking

8. Specific learning disabilities
    a. Reading
    b. Arithmetic
    c. Writing
    d. Spelling

9. Disorders of speech and hearing

10. Equivocal neurological signs and electroencephalographic irregularities

PRELIMINARY CATEGORIES OF SIGNS AND SYMPTOMS

Disorders of Speech and Communication

1. Impaired discrimination of auditory stimuli
2. Slow language development or other language disorders
3. Frequent mild hearing loss
4. Frequent speech irregularities

Disorders of Thinking Processes

1. Poor ability for abstract reasoning
2. Thinking generally concrete
3. Difficulties in concept-formation
4. Thinking frequently disorganized
5. Poor short-term and long-term memory
6. Thinking sometimes autistic
7. Frequent thought perseveration

Disorders of Attention and Concentration

1. Short attention span for age
2. Overly distractible for age
3. Impaired concentration ability
4. Motor or verbal perseveration
5. Impaired ability to make decisions, particularly from many choices

Academic Achievement and Adjustment (Chief complaints about the child by parents and teachers)

1. Reading disabilities
2. Arithmetic disabilities
3. Spelling disabilities
4. Poor printing, writing, or drawing ability
5. Variability in performance from day to day or even hour to hour
6. Poor ability to organize work
7. Slowness in finishing work
8. Frequent confusion about instruction, yet success with verbal tasks

Test Performance Indicators

1. Spotty or patchy intellectual deficits. Achievement low in some areas; high in others
2. Below mental age level on drawing tests (man, house, etc.)
3. Geometric figure drawings poor for age and measured intelligence
4. Poor performance on block design and marble board tests
5. Poor showing on group tests (intelligence and achievement) and daily classroom examinations which require reading
6. Characteristic subtest patterns on the Wechsler Intelligence Scale for Children, including "scatter" within both Verbal and Performance Scales; high Verbal--low Performance; low Verbal--high Performance

Impairments of Perception and Concept-Formation

1. Impaired discrimination of size
2. Impaired discrimination of right-left and up-down
3. Impaired tactile discriminations
4. Poor spatial orientation
5. Impaired orientation in time
6. Distorted concept of body image
7. Impaired judgment of distance
8. Impaired discrimination of figure-ground
9. Impaired discrimination of part-whole
10. Frequent perceptual reversals in reading and in writing letters and numbers
11. Poor perceptual and integration. Child cannot fuse sensory impressions into meaningful entities.

Emotional Characteristics

1. Impulsive
2. Explosive
3. Poor emotional and impulse control
4. Low tolerance for frustration
5. Reckless and uninhibited; impulsive then remorseful

Relationship Capacities

1. Peer group relationships generally poor
2. Overexcitable in normal play with other children
3. Better adjustment when playmates are limited to one or two
4. Frequently poor judgment in social and interpersonal situations
5. Socially bold and aggressive
6. Inappropriate, unselective, and often excessive displays of affection
7. Easy acceptance of others alternating with withdrawal and shyness
8. Excessive need to touch, cling, and hold on to others

Characteristics of Social Behavior

1. Social competence frequently below average for age and measured intelligence
2. Behavior often inappropriate for situation, and consequences apparently not foreseen
3. Possibly negative and aggressive to authority
4. Possibly antisocial behavior

Variations of Personality

1. Overly gullible and easily led by peers and older youngsters
2. Frequent rage reactions and tantrums when crossed
3. Very sensitive to others
4. Excessive variation in mood and responsiveness from day to day and even hour to hour
5. Poor adjustment to environmental changes
6. Sweet and even tempered, cooperative and friendly (most commonly the so-called hypokinetic child

Disorders of Motor Function

1. Frequent athetoid, choreiform, tremulous, or rigid movements of hands
2. Frequent delayed motor milestones
3. General clumsiness or awkwardness
4. Frequent tics and grimaces
5. Poor fine or gross visual-motor coordination
6. Hyperactivity
7. Hypoactivity

Physical Characteristics

1. Excessive drooling in the young child
2. Thumb-sucking, nail-biting, head-banging, and teeth-grinding in the young child
3. Food habits often peculiar
4. Slow to toilet train
5. Easy fatigability
6. High frequency of enuresis
7. Encopresis

Variations of Physical Development

1. Frequent lags in developmental milestones, e.g.: motor, language, etc.
2. Generalized maturational lag during early school years
3. Physically immature; or
4. Physical development normal or advanced for age

Specific Neurologic Indicators

1. Few, if any, apparent gross abnormalities
2. Many "soft," equivocal, or borderline findings
3. Reflex assymetry frequent
4. Frequency of mild visual or hearing impairments
5. Strabismus
6. Nystagmus
7. High incidence of left, and mixed laterality and confused perception of laterality
8. Hyperkinesis
9. Hypokinesis
10. General awkwardness
11. Poor fine visual-motor coordination

Sleep Characteristics

1. Body or head rocking before falling into sleep
2. Irregular sleep patterns in the young child
3. Excessive movement during sleep
4. Sleep abnormally light or deep
5. Resistance to naps and early bedtime, e.g.: seems to require less sleep than average child

STAFFING PROCEDURES

The achievement of a multi-disciplinary evaluation of learning disabilities is dependent upon the use of specialists in various areas. These specialists can, in working together with the therapist, arrive at the best diagnosis and therapy and/or placement for each child. Some of the specialists who should be included in the diagnostic process are given below:

1. Speech therapist
2. Teacher
3. Principal
4. School counselor
5. Public health or school nurse
6. Social worker
7. Pediatrician
8. Otologist
9. Audiologist
10. Ophthalmologist
11. Clinical psychologist
12. Neurologist

Some abilities that the speech therapist may need to explore, either alone or in conjunction with other qualified school personnel, are listed below:

1. Articulation (See section on Articulation Therapy for specific tests)

2. Examination of oral structure and function, test of fine motor coordination

3. Auditory discrimination
    a. Wepman Test of Auditory Discrimination
    b. Robbins Verbal Imagery Test
    c. Templin Sound Discrimination Test
    d. Subjective observation of rhyming and ability to discriminate rhythms

4. Auditory sequencing or memory
    a. Subtest of I.T.P.A. (Illinois Test of Psycholinguistic Ability)
    b. Binet items for digets, words, and sentences

5. Auditory closure - Subtest of I.T.P.A.

6. Sound blending
    a. Subtest of I.T.P.A.
    b. Subjective observation

7. Receptive vocabulary
    a. Peabody Picture Vocabulary Test
    b. Subtest of I.T.P.A.

8. Auditory association
    a. Subtest of I.T.P.A.
    b. Action Agent Test - Gesell

9. Verbal expression
    a. Subtest of I.T.P.A.
    b. Verbal Language Development Scale - Meachum
    c. Action Agent Test - Gesell
    d. Houston Test for Language Development

10. Visual perception
    a. Bender Visual-Motor Gestalt Test
    b. Marianna Frostig Development
    c. Binet or Cattell Tests for Figures and Geometric Forms

11. Visual reception and association - Subtest of I.T.P.A.

12. Visual sequencing and memory - Subtest of I.T.P.A.

13. Case history - use to aid in differential diagnosis
    a. Emotional
    b. Neurological
    c. Social - Vineland Social Maturity Scale
    d. Physical

After the differential diagnosis has been completed, the recommended treatment and/or placement will vary according to the child and the facilities available in the school system or in surrounding areas.

If learning disability classes are available in the school system, the speech therapist will be able to continue having the child in therapy if indicated. He may also act in an advisory capacity to the learning disability teacher concerning any child in the class.

If there is no learning disability class available, the speech therapist may be able to help certain children through therapy in the areas of language, auditory memory and sequencing, auditory discrimination, fine motor control of the articulators, and articulation. In working with such children, tactile kinesthetic cues have often proven to be beneficial. It is also recommended that a child's strengths be used to aid in areas of weakness. The therapist should work with the classroom teachers to help them better understand the problems of children with learning disabilities. The bibliography which follows this section may prove beneficial to both the therapist and the classroom teacher.

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IV

AUDITORY IMPAIRMENTS

AUDITORY DISORDERS

DESCRIPTION OF NORMAL HEARING

Many persons in the field of speech and hearing think of "normal" hearing as the line on an audiogram which reads "0" and/or the narrow range of hearing down to about "15 dB" on the audiogram. While this concept is not entirely false, it is incomplete, and if the speech therapist is interested in providing more complete speech and hearing services in the public school setting, additional understanding of hearing is both desirable and practical.

The "normal" hearing described is actually "average" hearing of young adults with no known history of ear disease. This information about human hearing was gathered under controlled conditions including very quiet test environments. If all these conditions were duplicated using young children, generally speaking, the "average" hearing would be found to be somewhat better than the "o" line established for young adults. It would also be found that, generally speaking, older persons would not hear quite as well as either of the younger groups and, none of the individuals tested would be likely to hear at "0" for all pure tones used in the test.

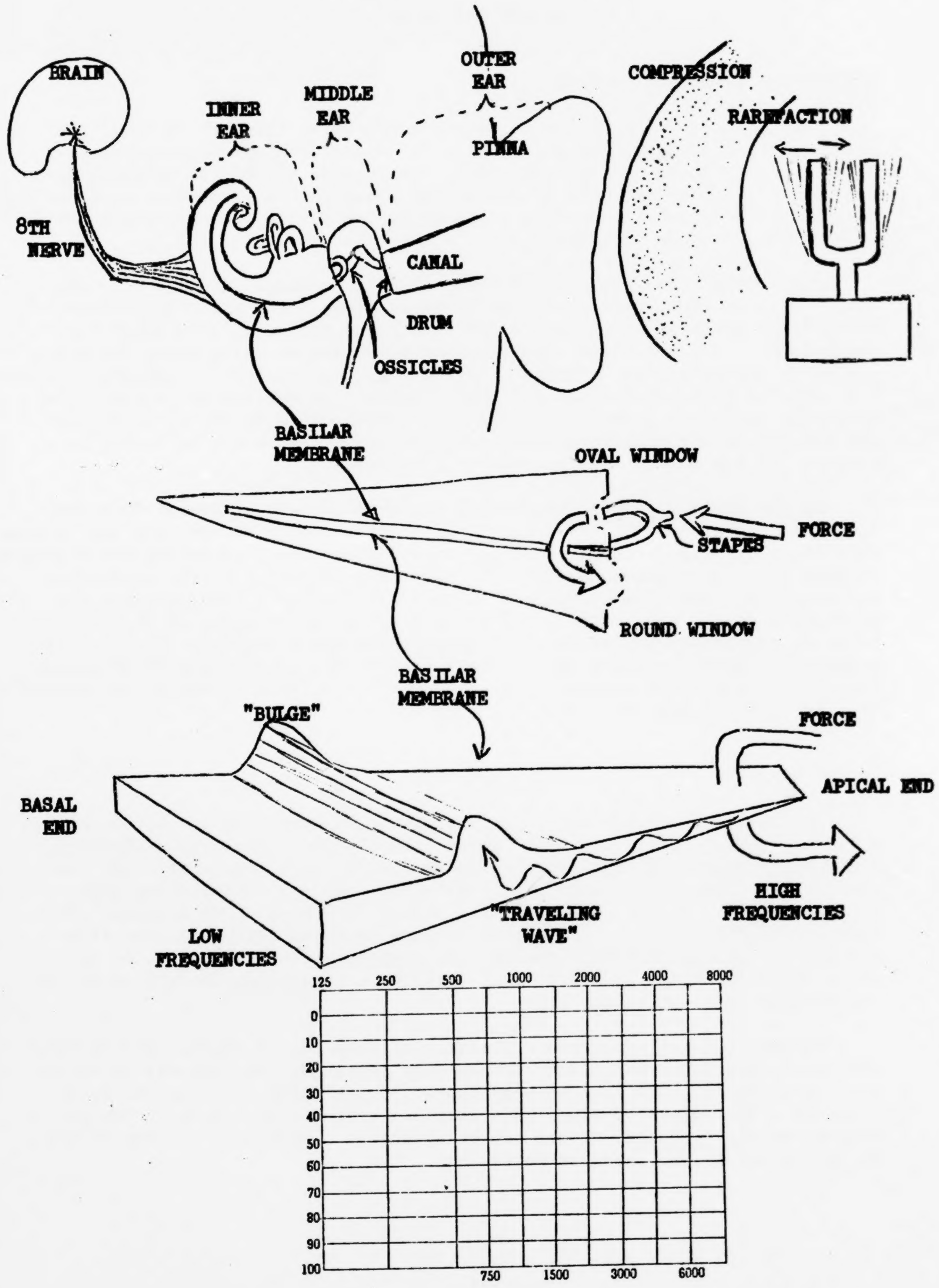
If the tests were performed using basic electronic equipment from the field of psychoacoustics, it would be noted that the human ear does not respond equally to different tones. Much more sound intensity is required for a person to hear very low tones and very high tones than for tones in the mid-range. The scientists and manufacturers of electronic equipment have designed and produced a device (the audiometer) for use in the measurement of hearing with built-in compensations for these differences in human hearing. That is, the audiometer, when working properly, will provide the correct amount of sound intensity required at several pure tones, to approximate "average" or "normal" hearing of young adults.

HOW WE HEAR

Sound may be thought of as the transfer of alternating pressures through a medium (usually air). To have "sound" there must be a source (vibrator), a medium through which the pressure waves travel (air), and a receiver for the pressure waves (the human ear). Refer to Figure 1 on following page. In this example, the sound source is a tuning fork mounted on a block. When struck, the tines of the tuning fork vibrate back and forth. As the tine nearest the ear moves toward the ear, it compresses the air particles immediately adjacent to it. Movement away from the ear rarefies the air particles immediately adjacent to the tine.

Movement of the tine from a position of dead center through its farthest excursion toward the ear, back through dead center to its farthest excursion away from the ear, and back to dead center, constitutes one complete cycle of movement. The number of times this complete action takes place in one second determines the frequency of the vibrating object. Frequency is then related in cycles per second (cps) or Hertz (Hz).

FIGURE 1


BRAIN
8TH NERVE
INNER EAR
MIDDLE EAR
OUTER EAR
PINNA
COMPRESSION
RAREFACTION
CANAL
DRUM
OSSICLES
BASILAR MEMBRANE
OVAL WINDOW
FORCE
STAPES
ROUND WINDOW
BASILAR MEMBRANE
"BULGE"
FORCE
APICAL END
BASAL END
"TRAVELING WAVE"
HIGH FREQUENCIES
LOW FREQUENCIES
125
250
500
1000
2000
4000
8000
0
10
20
30
40
50
60
70
80
90
100
750
1500
3000
6000

This original movement of the tuning fork sets up a "chain reaction" causing air particles in the path of the vibrating object to be alternately compressed and rarefied and continues "wave-like" toward the receptor--the human ear.

The sound waves are received at the auricle or pinna and directed into the ear canal toward the ear drum. These parts of the anatomy of the ear are referred to as the outer ear. The drum vibrates in response to the frequency of the tuning fork and these vibrations are transmitted across a bridge of three tiny bones called the ossicles. These bones, the small capsule in which they exist, and the tube (eustachian) which connects the capsule to the back of the throat are referred to as the middle ear.

When the vibration reaches the last small bone (called the stapes or stirrup) the energy is then transmitted into the cochlea (a part of the inner ear) via a thin "drum-like" membrane called the oval window. The inner ear is filled with fluid and contains a thin membrane (the basilar membrane) which runs through the length of it. There is another small "window" below the stapes called the round window.

The energy goes in via the stapes through the oval window, through the fluid and across the basilar membrane. The pressure is released through the round window. This transfer of energy from one window to the other sets up a small "traveling" wave along the basilar membrane which runs through the cochlea. Resting on the cochlea is the end-organ of hearing--the organ of Corti.

The organ of Corti contains several rows of hair cells covered over by a very fragile device called the tectorial membrane. As the "wave" travels down the basilar membrane, a shearing action is produced on the hair cells. The hair cells are connected to nerve fibers leading from the cochlea via the 8th cranial nerve to the brain. The "wave" travels to a point on the membrane which is predetermined and somewhat in "tune" with the frequency which entered the system. At this point on the membrane there will be a slight bulge and the maximal amount of "shearing" and stimulation will take place. This "shearing" action causes the fibers to "fire" and thus a signal is transmitted to the brain.

Now refer to the diagram below the cochlea. Diagramatically, the basilar membrane and the organ of Corti can be thought of as a device which is rather thin, narrow and stiff at one end and somewhat thick, wide and loose at the opposite end. You may note this description bears some resemblance to the arrangement of piano strings on a piano with the thin, short, tense wires producing high tones and the long, thick, heavy wires producing the low tones. The high tone response part of the hearing of the basilar membrane is then located toward the stapes or the apical (apex) end of the cochlea while the low tone response portion of the basilar membrane is located toward the opposite or basal (base) end of the cochlea. Do not be concerned about the inconsistency of the large end of the basilar membrane being located in the small end of the cochlea and vice versa. That such a condition exists, is sufficient for purposes of this discussion.

If the vibrator (the tuning fork) makes larger excursions (amplitude) as a result of applying more force, the frequency does not change, but the tone appears much louder. The greater vibratory pattern is transmitted into the inner ear as additional force, and the resulting "bulge" is larger than before. This results in more nerve fibers being involved and, therefore, a stronger (louder) signal is transmitted to the brain. The perception of the tone of "pitch" of the signal remains essentially unchanged.

If an audiogram (graph of hearing) is placed under the diagram of the basilar membrane, some meaningful comparisons of the results of hearing testing and the function of the auditory system may be made.

Human speech sounds could be placed into three categories: (1) vowels; (2) voiced consonants; (3) voiceless consonants. Male voices have an average pitch of approximately 125 Hz, and female voices are about one octave higher (250 Hz). Therefore, most vowel sounds will be found below about 300 Hz. Voiceless consonants such as "sh", "p", "t" and "k" have most of their energy beginning above 2000 Hz and extending for one or two octaves. The voiced consonants such as "zh", "b", "d" and "g" will obviously have some components of both lower and higher frequencies. Vowel sounds carry much more energy (loudness) than do the voiceless consonants.

Suppose that the sound source is human rather than a tuning fork and that the person speaks the word, "Shot". Under normal conditions the auditory system would receive all of the energy and transmit appropriate signals to the brain. If the brain is working properly, the person should perceive and understand the word, "Shot". Suppose, however, that some obstruction exists in the outer or middle ear which greatly reduces the amount of force reaching the inner ear. The person may not receive the word with sufficient force to be able to understand what has been said although he may "hear" something. If the speaker repeats the word at a much louder level, the individual would probably now understand the message.

If the organ of Corti has been damaged in the high frequency area, a kind of "filtering" of the word "shot" takes place in which the signal received at the brain by the listener is missing both the "sh" and "t" sounds which are of high frequency and low intensity. The message received then is only a sort of "ah". Having the speaker talk at a louder level will not alter this disproportionate speech signal, and the listener might simply receive a louder "ah".

HEARING LOSS

These two examples of speech reception and perception represent the effects of the two major types of hearing loss and their primary effect on communication.

1. A conductive loss is a loss of transmission with the problem occurring in the outer or middle ear. The result is diminished force applied to the inner ear. Removing the obstruction medically or surgically or increasing the amount of volume of the speech signal should improve the perception of speech.

2. The sensori-neural or "nerve" type loss has its problem originating in the inner ear with damage to the organ of Corti. The damage is usually greater in the high frequencies than in the low frequencies. A loss of this type does not respond to medical or surgical treatment. An increase in volume or loudness of the speech signal is not always sufficient to improve communication since the perceived signal is still distorted due to the "filtering" of the speech signal.

DETERMINATION OF LOSS

In addition to otological (medical) evaluation, certain audiometric procedures are used to determine the nature and extent of the hearing loss. The most common tests used are (1) pure-tone assessment by air conduction and by bone conduction, and (2) speech reception thresholds and speech discrimination. This "battery" of tests should be performed under carefully controlled sound conditions using equipment which has been checked to determine its accuracy (calibration).

Pure-tone air-conduction responses are usually plotted on the audiogram using an "X" for the left ear and an "O" for the right ear. The pure-tone air conducted signals are provided through headphones. Pure-tone responses for bone conduction are usually plotted on the audiogram using arrows (< >) or brackets ([ ]). The bone conducted signals are transmitted through a vibrating device placed on the skull either behind the ear or on the forehead. Bone-conduction testing "bypasses" the usual air-conduction route and vibrates the basilar membrane and the organ of Corti directly through the bones of the skull. By this method, it is possible to make an approximation of the function of the inner ear and to compare it with the function of the entire auditory system (including the outer and middle ear components) by air conduction.

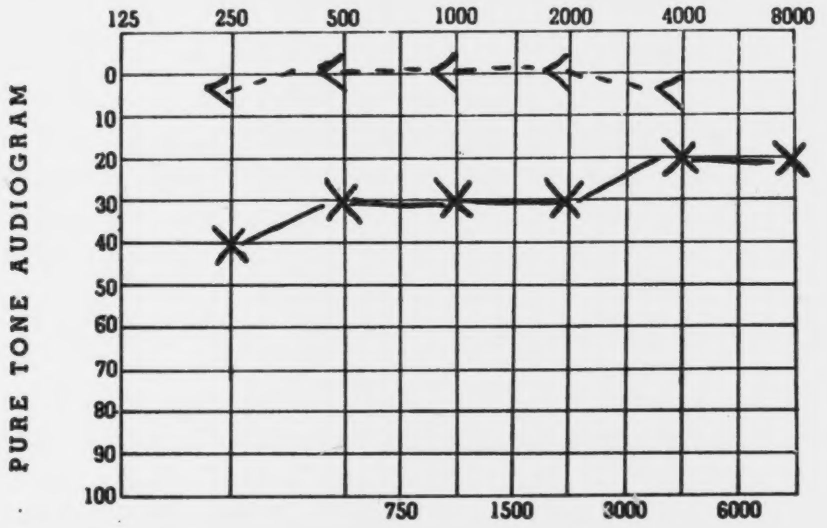
The speech reception threshold (SRT) is located by finding the point at which the patient can correctly respond to 50% of a group of two-syllable (spondee) words presented through the headphones. The speech discrimination score is obtained by presenting a number of selected one-syllable words at a level well above the speech reception threshold. The discrimination score is reported in percent correct.

Look at the audiogram in Figure 2. Note that the air-conduction score for the left ear is well below "normal" while the bone-conduction score is within "normal" limits. Also note that the SRT is about the same as the "average" air-conduction score and that the speech discrimination score is good. This audiogram suggests that:

1. There is some problem of obstruction which is reducing the transmission of sound to the inner ear.
2. The inner ear or nerve portion of the system is functioning well.
3. Medical and/or surgical treatment may improve the hearing.
4. When the speech signal is made loud enough there is no problem in understanding speech.

FIGURE 2

NAME Doe, Jane AGE 7 SEX F DATE 10/5/69
ADDRESS
CLINIC
REFERRED BY
NUMBER



AID
REC.
TONE VOL.

CC-S-82

BY
AUDIOMETER

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

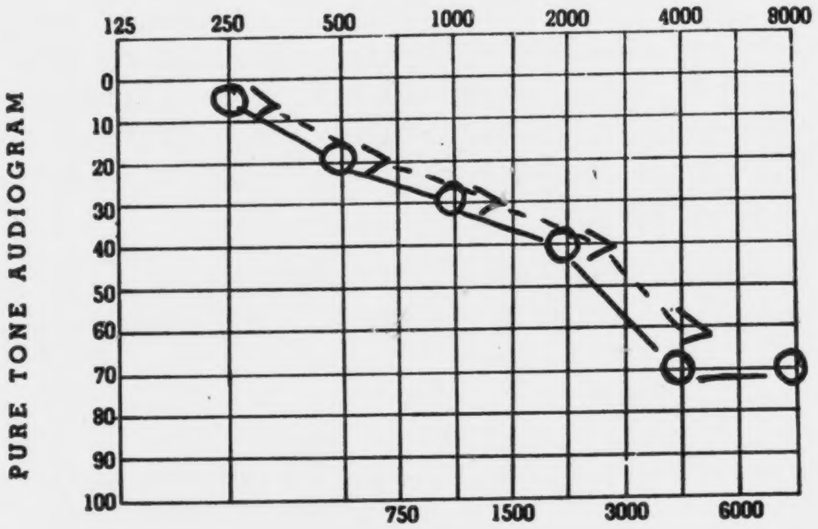
	Speech Audiometry		
	R	L	SF
SRT		30dB	
PB		96%	

Now refer to the audiogram in Figure 3. Note that there is a gradual decrease in hearing acuity from the low frequencies to the high frequencies by both air and bone conduction. Also note that while the speech reception threshold is about the same as that of the conductive loss example, the speech discrimination score is much less. This information suggests that:

1. There is a loss by air conduction.
2. The loss by bone conduction is about equal to that of air conduction demonstrating that the problem is probably in the inner ear rather than the outer and/or middle ear.
3. This loss will probably not respond to medical treatment.
4. Increasing the loudness of the speech signal still leaves a communication problem with decreased ability to understand speech.

FIGURE 3

NAME Doe, John AGE 7 SEX M DATE 10/5/69
ADDRESS
CLINIC
REFERRED BY
NUMBER



AID
REC.
TONE VOL.

CC-S-82

BY
AUDIOMETER

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

Speech Audiometry			
	R	L	SF
SRT	30dB		
PB	78%		

Although there are many variations, configurations, combinations, and degrees of loss to be found among individuals, these two categories (conductive and sensori-neural) or a combination thereof, remain the primary classifications of hearing loss. The speech therapist working in the public school setting who has children with known hearing disorders and who also has access to audiometric evaluations should study them carefully for insight into the child's behavior and for cues which may be beneficial in therapy or parent and teacher counseling.

HEARING SCREENING

Screening is a minimal prerequisite to speech and language diagnostics and therapy. A child cannot reproduce verbally or vocally that which he hears imperfectly or not at all.

The hearing screening test does not separate the child with normal hearing from the child with abnormal hearing. Rather it serves as a time-saving device which attempts to identify most of the individuals whose hearing is probably within normal limits. Criteria for hearing screening testing vary considerably throughout the state and nation, and the suggestions presented here are certainly not the last word in this controversy. Use of the information presented here, however, should make it possible for you to locate children who are in obvious need of additional testing and evaluation.

Some therapists may have learned to administer a hearing screening test at a level of 15 dB HL (The old standard--ASA 1951--used HL--Hearing Loss--to denote audiometric zero) for frequencies from 250 through 8000 Hz. In 1964 the International Standards Organization adopted a reference level for audiometers which was approximately 10 dB less intense than the level previously used in the United States. This revised standard has been accepted in most states and by most professional groups using audiometers. This revised reference level means that an additional 10 dB should be added for screening making the present recommended screening level 25 dB HTL. (The new standard--ISO 1964--uses HTL--Hearing Threshold Level--to differentiate between the new audiometric zero and the former--HL). The audiometer should be checked to determine whether it has been calibrated to the new ISO 1964 Standards.

Equipment: Portable audiometers available for hearing screening and threshold testing have essentially the same components. The console portion will have:

1. A power switch
2. An earphone-selector switch (Left and Right or Blue and Red)
3. A tone-interruptor switch usually with an option of tone-on, except when depressed, or a tone-off, except when depressed
4. A frequency-selector dial
5. A hearing-loss or hearing-threshold-level dial
6. A masking-level dial

The other major components of the audiometer are:

7. The power-cord
8. The headphones

The audiometer may also be equipped with a bone-conduction oscillator and will therefore include a bone selector switch on the console. However, for purposes of hearing screening and hearing threshold testing, bone-conduction testing will not be covered in this discussion.

The audiometer is a delicate electronic instrument and should be handled as carefully as a radio or portable television set. The accuracy (calibration) of this instrument is set to rather narrow tolerances and may easily be put out of calibration by careless handling or abuse.

The audiometer should be stored so as to avoid extreme changes in heat or cold. If transported, it should be carried on the floor board of the car rather than in the trunk. Special care should be taken with the headphones to prevent them from being dropped.

When packing the audiometer after being used, be sure that all switches are off. Do not wrap the cords of the headphones around the headphones! Be sure that the cords are untangled and place the headphones in the compartment first, then loosely fold the cords and place them on top of or inside of the space with the headphones. The power-cord should be folded in a similar manner.

When unpacking the audiometer and preparing it for use, reverse the process by removing the cords first before removing the headphones. Place the headphones so that they will not be easily dropped. After plugging in the power-cord and turning on the audiometer, allow a few minutes for warm up.

Test Environment: Of all of the preparations made for hearing testing one of the most important factors overlooked is the test environment. The well appointed and equipped audiology center has its tests performed in a sound-controlled environment.

The factor under consideration is called the "ambient noise level" or the amount of noise which exists in the environment. If the ambient noise level for the frequency being tested is higher than the recommended level of tone presentation, then a hearing loss may be reported where none exists. For example, if the examiner is presenting a 500 Hz signal at 25 dB Hearing Threshold Level and the ambient noise level at that frequency is greater than 25 dB HTL then the tone may be "covered up" (masked), and the individual being tested will not hear the 500 Hz signal. The individual may be considered to have failed the test when, in fact, his hearing is better than indicated.

It is not practical to expect the speech therapist to conduct a sound-level survey and an octave-band analysis of the noise level in every room in which testing is to be performed. However, it is possible in a practical manner to determine whether the ambient noise level is too high for the selected test procedure. This evaluation of the environment may be accomplished by simply listening to the various recommended frequencies at the recommended test level (assuming the speech therapist has relatively normal hearing). Some adjustment in increasing the test intensity is permissible to compensate for ambient noise level. If the intensity must be raised more than 5 dB above the recommended level, it is better to seek another location for testing. The reason for this change in location is that individuals who have hearing losses of as much as 20 dB HTL may be missed by the screening procedure.

SCREENING TECHNIQUES

1. Assuming that the equipment has been checked by the examiner and the first child is seated for testing, the audiometer should be placed so that the child cannot see the console of the equipment. Instructions should be brief and simple, such as, "You are going to listen to some tones or whistles. I want you to raise your hand when you hear a tone, and put it down when the tone goes away."

2. With the frequency dial set at 1000 Hz and the headphone selector set at Right or Red, present the first signal at a level of 50 dB HTL.

3. Now lower the intensity of the signal to 25 dB HTL, and present the signal again. The sound intensity level or Hearing Threshold Level (HTL) is kept at 25 dB or whatever level has been selected by the examiner as being adequate to easily hear the tones in the test environment.

4. The examiner must be careful not to (A) depress the "tone-on" lever and then look at the child, or (B) establish a monotonous "pattern" of presenting the tone to the child. Such habits provide the child with cues and make it possible for him to give responses when he does not hear the tone. The examiner should, therefore, be looking at the child when the "tone-on" switch is depressed, and should make some of the tone presentations longer than other presentations.

5. After a response (or lack of response) has been recorded for 1000 Hz at 25 dB HTL, the frequency selector should be turned to 2000 Hz with the intensity level remaining at 25 dB HTL.

6. This tone presentation and recording procedure is repeated for 4000 and 6000 Hz.

7. The frequency selector should then be moved to 500 Hz.

8. After noting the response at this frequency, the frequency selector should be returned to 1000 Hz and the earphone selector switch turned to "Left" or "Blue".

9. The entire test procedure is repeated for the left ear.

The usual criterion for failing a screening test of this type is---failure to respond to any of two frequencies in one ear. For example, no response at 500 and 4000 Hz in the right ear would ordinarily be grounds for referral for more complete testing. A loss at 4000 Hz in each ear would not usually be sufficient grounds for additional testing. However, if time and equipment are available, the concerned speech therapist will be interested in more complete testing on children who fail at 4000 Hz in one or both ears or at 500 Hz in both ears. Losses at 4000 Hz are often early indicators of sensori-neural losses, and losses at 500 Hz are often indicators of possible conductive losses.

THRESHOLD TESTING

If the therapist is interested in or has the responsibility for more complete audiometric testing of a child, some additional testing information may be helpful. First, unless the therapist has access to a controlled sound environment, the follow-up testing should be limited to air conduction (in addition to an extremely quiet test environment, bone-conduction testing requires training in technique and theory beyond the scope of this discussion). Secondly, the therapist should recognize that air-conduction results obtained under the usual available sound environment must be considered as approximations only.

The procedures for obtaining thresholds by air conduction are similar to the procedures used in the beginning portion of the screening test:

1. After giving instructions and placing the headphones on the child, the test usually begins in the right ear at 1000 Hz. (Note: If it is known that there is a loss in the right ear, test the left

ear first.) After the 1000 Hz tone is presented at a level of approximately 50 dB HTL, the examiner should reduce (or increase) the level to some point which differentiates positive responses from negative responses.

2. A definition of "threshold" is a 50% correct response pattern. However, insistence on this criterion may cause the test to be unnecessarily long.

3. A practical technique to use, when it is believed that a point near threshold has been reached, is to reduce the intensity in 10 dB steps until no response occurs and then increase the intensity in 5 dB steps until a response occurs.

4. An alternative procedure would be to hold the tone interruptor down while slowly increasing the loudness by turning up the hearing threshold level dial from 0 dB until the child responds.

5. Then decrease the intensity of the tone by 10 dB steps with the hearing threshold dial until the child again fails to respond.

6. Increase the intensity of the tone by 5 dB steps with the hearing threshold level dial until the child hears the tone and responds.

7. Always remember to decrease the tone by 10 dB steps and to increase the tone by 5 dB steps. (Back 10 and up 5)

8. Also, remember that the first threshold reached is usually just temporary and is the child's first response to the sound being presented. The child's true threshold will fall somewhere under the first response, usually from 5 dB to 15 dB.

9. When you have established the threshold for hearing (the point at which the child begins to hear the tone) record this on the audiogram.

10. Turn the frequency selector dial to 2000 Hz and obtain the threshold in the same manner as for 1000 Hz above (leave out the initial 50 dB presentation). Record the results for the frequency of 2000 Hz on the audiogram.

11. Turn the frequency selector dial to 4000 Hz. Establish and record threshold.

12. Turn the frequency selector dial to 8000 Hz. Establish and record threshold.

13. Turn frequency selector dial to 250 Hz. Establish and record threshold.

14. Turn frequency selector dial to 500 Hz. Establish and record threshold.

15. Turn output selector to Blue or Left.

16. Set frequency selector dial to 1000 Hz. Establish and record threshold.

17. Continue to obtain threshold in the same manner and sequence as obtained on the first ear tested.

Be sure to use the correct symbols in recording on the audiogram. The accepted symbols are:

Ear	Symbol	Color (if used)
Right	O	Red
Left	X	Blue

If the child actually has a unilateral (one-sided) loss which is much greater than the better ear, it is quite possible that instead of testing the "poorer" ear, the sound may "leak" out from the headphone and cross over to the better ear. In this instance the therapist will be recording a "shadow curve" for the poorer ear rather than its actual threshold. Correction of this "leak" problem involves the use of "masking". Masking is considered to be beyond the scope of this discussion, and it is recommended that children presenting such losses should be referred for more comprehensive testing.

HEARING AIDS

Hearing aids come in all varieties of names, shapes, power, fidelity, etc. It would be impossible in the realm of this discussion to cover the varieties completely.

Generally speaking, hearing aids may be classified as ear level (behind the ear or mounted in eye-glass frames) or body type (worn on the body). Also, generally speaking, the smaller the aid--the less power, and vice versa. Instruments worn in one ear are referred to as a monaural arrangement and, where two instruments are used (one for each ear), the arrangement is referred to as a binaural arrangement. One hearing aid (body type) with a cord which divides and goes to each ear is referred to as a "Y-cord" arrangement (this is not at all like the binaural or "two-hearing-aids" arrangement).

Basically, the hearing aid is a miniature loud speaker system. Since high fidelity reproduction of speech or music requires a rather elaborate electronic system which, even when transistorized, will still weigh several pounds, this miniature device cannot be expected to produce the same fidelity as the larger system.

A hearing aid has several basic components:

1. A microphone for receiving the sound
2. A power source (battery)
3. An amplifier for increasing the power of the speech signal received through the microphone
4. Tone controls for modifying the frequency characteristics of the signal such as more treble or more base

5. A volume control for increasing or decreasing the intensity of the signal received
6. A receiver which is comparable to the speaker and which is designed to transmit the intensified signals to the ear

(Another necessary component of this system which is not a part of the hearing aid is the ear mold.)

If the speech therapist has a hard-of-hearing child enrolled in therapy in the public school, hopefully, a hearing aid (if worn) has been selected and fitted through an audiological facility or an experienced hearing aid dealer. The speech therapist should become familiar with the hearing aid, its controls, the kind of battery used, etc. The aid should be checked frequently to determine whether it is working properly, and the ear mold should be examined frequently to insure that it is clean and that the passage is clear.

If the instrument is of the body type, it can be checked by unsnapping the ear mold, placing the receiver to your ear and very carefully turning the instrument on and increasing the volume while talking, whistling, or counting into the microphone portion of the aid. While holding the receiver against the ear, the cord should be "wiggled" near where it inserts into the receiver and where it inserts into the main portion of the instrument. If the sound becomes intermittent, the cord is defective and should be replaced.

Hearing aid cords should "fit" the child. The cord should not be excessively long or short.

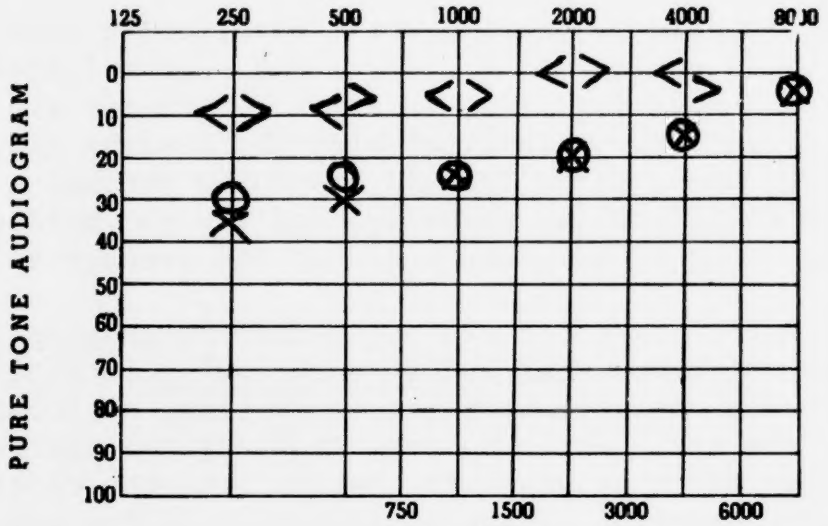
The ear level instrument can usually be checked by cupping the hand around the end of the mold and the microphone portion of the instrument and simultaneously turning up the volume. A "whistle" should occur which indicates that the instrument is functioning.

If no response occurs, you should:

1. Check to see that the battery is in properly. The battery will be marked with a plus (+) sign on one end, and the hearing aid will be similarly marked for matching
2. If the battery is correctly positioned, try a new one
3. If the instrument has a switch on it marked "T" (telephone) be sure that it is not in this position. The selector on the instrument should be on the "M" (microphone)

CONDUCTIVE HEARING LOSS

NAME ______ AGE ______ SEX ______ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______



AID ______
REC. ______
TONE ______ VOL. ______

CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	12dB	14dB	
PB	100%	100%	

Plate I

1. Classification of Hearing Impairment

   A. Type - conductive.
   B. Degree - a very mild deviation from normal hearing.

2. Possible Medical History

   Excessive adenoid and lymphoid tissue, chronically infected ears, and/or adhesions and scar tissue caused from repeated infected ears (otitis media). Hopefully, this represents a medical problem which is treatable and reversible. Note that the hearing by bone conduction is good, suggesting normal nerve function.

3. Effects on Hearing Function

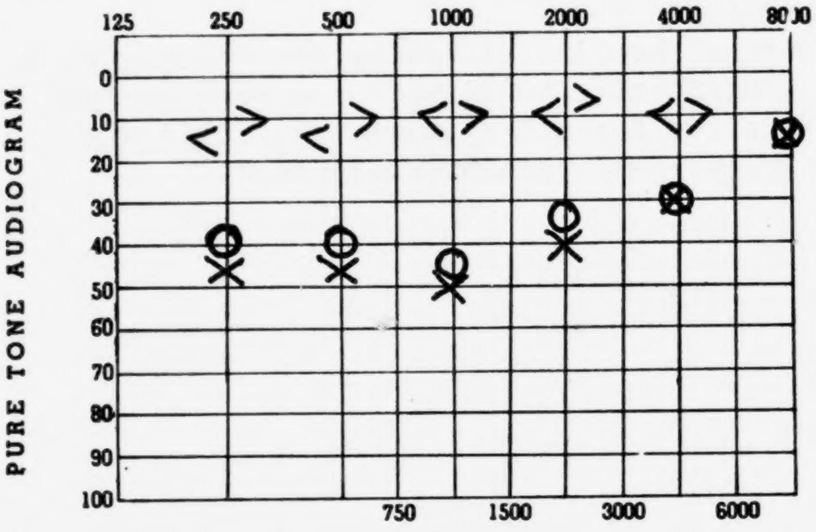
   Ability to hear soft conversation and the voice from a distance would be somewhat diminished. There is a noticeable amount of fluctuation in ability to hear. Child should hear well when the speaker is near and the voice well-projected.

4. Recommendations

A. Necessary medical treatment and follow-up.
B. Preferential seating in the classroom.
C. Hearing aid use not indicated.
D. In the event that a medical problem affecting the hearing so as to cause a fluctuating conductive impairment has been present for a long period during the formative years, the child might need some help in vocabulary and speech development.

MILD CONDUCTIVE HEARING LOSS

NAME ______ AGE ____ SEX ____ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______



AID ______
REC. ______
TONE ______ VOL. ____

CC-5-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	30dB	34dB	
PB	100%	96%	

Plate II

1. Classification of Hearing Impairment

   A. Type - conductive.
   B. Degree - mild.

2. Possible Medical History

   Eustachian tube blockage, atresia, chronically infected ear, pronounced allergy, excessive lymphoid tissue, fluid in the middle ear and occasionally, but rarely, childhood onset of otosclerosis. Hopefully, this type and degree of hearing impairment is reversible by medical and/or surgical treatment.

3. Effects on Hearing Function

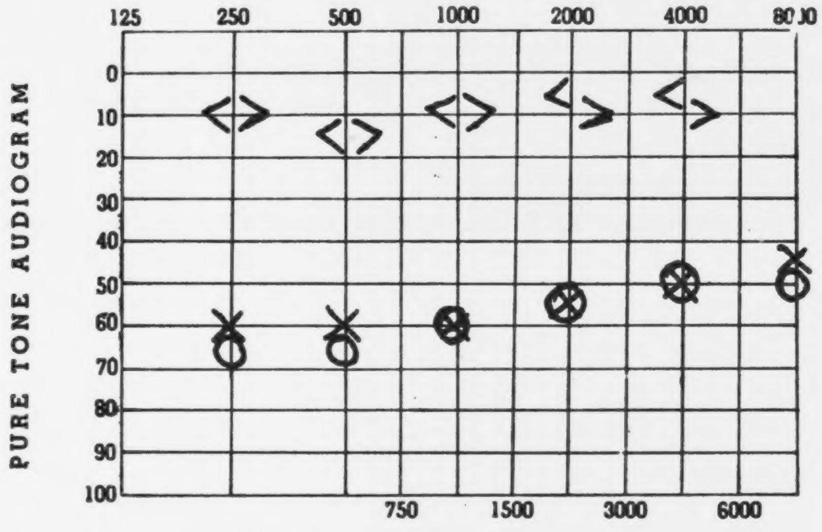
   In an average classroom situation or home living room situation, a child with this degree of impairment would have trouble hearing the average conversational voice at a distance of ten or more feet. He would often know that someone was talking, but not know completely what had been said unless he was close enough, or the voice was raised in intensity. His own speech projection might be affected while this degree of impairment existed. That is, the child might not project his voice and talk as loudly as normal because it might sound loud to him.

4. Recommendations

A. Careful appropriate medical treatment and follow-up.
B. If medical treatment did not alleviate the problem, hearing aid use should be considered.
C. Preferential seating in the classroom.
D. Careful assessment of language skills - the overall development of these skills.

MODERATE CONDUCTIVE HEARING LOSS

NAME ____________ AGE ____ SEX ____ DATE ____________
ADDRESS ____________ CLINIC ____________
REFERRED BY ____________ NUMBER ____________



AID ____________
REC. ____________
TONE ____________ VOL. ____

CC-S-82

BY ____________
AUDIOMETER ____________

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	48dB	50dB	
PB	100%	96%	

Plate III

1. Classification of Hearing Impairment

   A. Type - conductive.
   B. Degree - moderate.

2. Possible Medical History

   It is possible that this degree of impairment could be caused by bilateral atresia or mycosia, mastoiditis, and/or otosclerosis onset in childhood - this is rare under 16 years of age. Repeated and long term otitis media may cause an impairment to this degree. Note that the hearing by bone conduction is excellent, indicating good nerve function. This is also expressed in the excellent discrimination scores.

3. Effects on Hearing Function

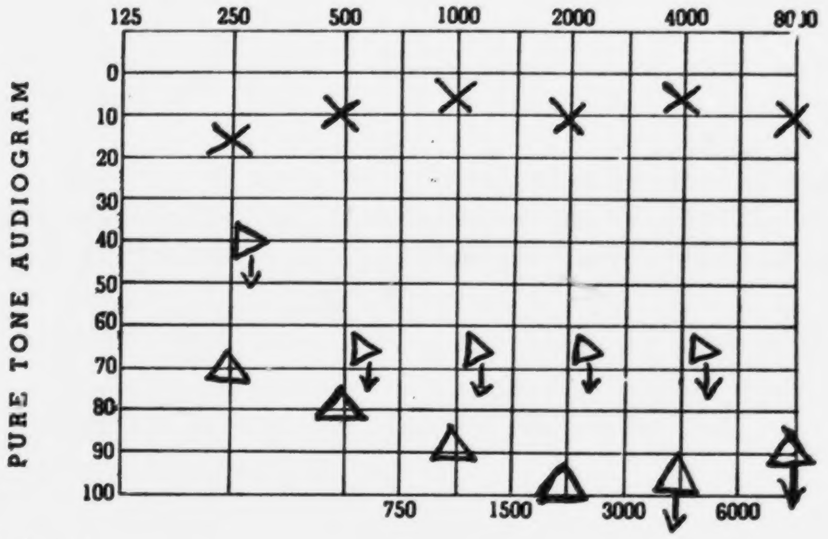
   The child with this degree of hearing impairment hears well enough to understand speech only when the speaker is near or has raised his voice. This degree of impairment will definitely impede the normal acquisition of vocabulary and language understanding if it persists for long. It may affect speech production.

4. Recommendations

A. Appropriate and continued medical treatment and follow-up.
B. If hearing level cannot be improved significantly by medical and/or surgical treatment, hearing aid use is indicated. Depending on the health of the ear, one or two ear level instruments of the aid conduction type or an appropriate bone conduction hearing aid should be considered. Whichever kind is used, it should be used most of the waking hours.
C. Preferential seating in the classroom.
D. A careful assessment of the child's level of language understanding and usage, learning ability, and especially his vocabulary level.

PROFOUND UNILATERAL NERVE HEARING LOSS

NAME ____________ AGE ______ SEX ______ DATE ____________
ADDRESS ____________ CLINIC ____________
REFERRED BY ____________ NUMBER ____________



AID ____________
REC. ____________
TONE ______ VOL. ______

CC-S-82

BY ____________
AUDIOMETER ____________

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	CNT	4dB	
PB	CNT	100%	

Plate IV

1. Classification of Hearing Impairment

   A. Type - nerve loss, unilateral.
   B. Degree - profound. Normal hearing function in the left ear.

2. Possible Medical History

   Such a profound loss in one ear may have been present from early infancy or birth; occasionally from traumatic accidents; and rather often from mumps. If associated with a sudden onset of loss and dizziness and/or unsteadiness of gait, a very careful and physical evaluation is indicated.

3. Effects on Hearing Function

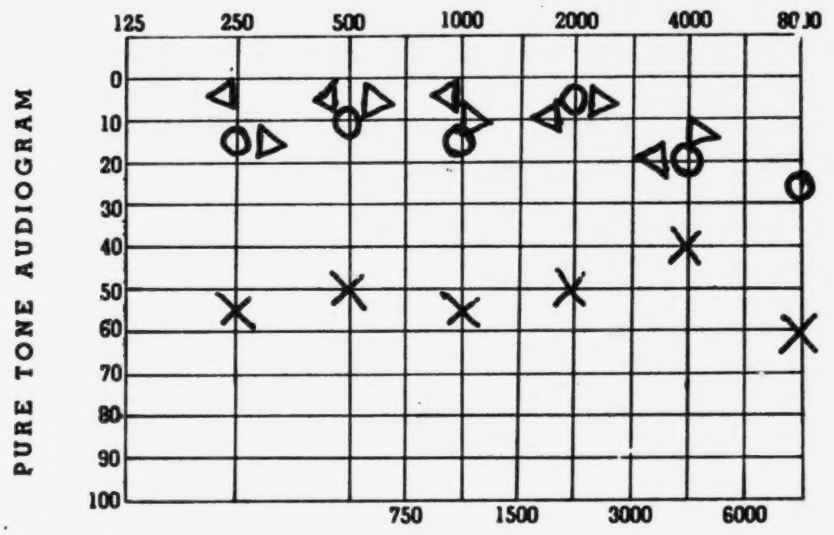
   The child with a unilateral hearing loss usually develops good speech and language. He has trouble understanding in the presence of much background noise, in locating the source of sound, and at times in following classroom discussions involving speakers from different locations, especially if there is much background noise.

4. Recommendations

A. Appropriate medical follow-up and re-evaluation of hearing for a few years, usually on an annual basis.
B. Careful follow-up of the hearing function of the good ear, especially if the child is prone to prolonged colds and upper respiratory infections.
C. Preferential seating in the classroom, enabling child to have the better ear toward the center of the room.
D. Hearing aid use for the poor ear is not indicated because it is impossible to effect a useful balance of hearing. However, the use of a CROS (Contralateral Routing of Signal) hearing appliance might be considered when the child is older.

MODERATE UNILATERAL CONDUCTIVE HEARING LOSS

NAME ________________ AGE ____ SEX ____ DATE ________
ADDRESS ________________ CLINIC ________
REFERRED BY ________________ NUMBER ________



AID ________
REC. ________
TONE ________ VOL. ____

CC-S-82

BY ________
AUDIOMETER ________

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	0dB	40dB	
PB	100%	96%	

Plate V

1. Classification of Hearing Impairment

   A. Type - conductive loss, unilateral, left ear.
   B. Degree - moderate; right ear normal.

2. Possible Medical History

   Similar to Plates II and III, but affecting one ear only.

3. Effects on Hearing Function

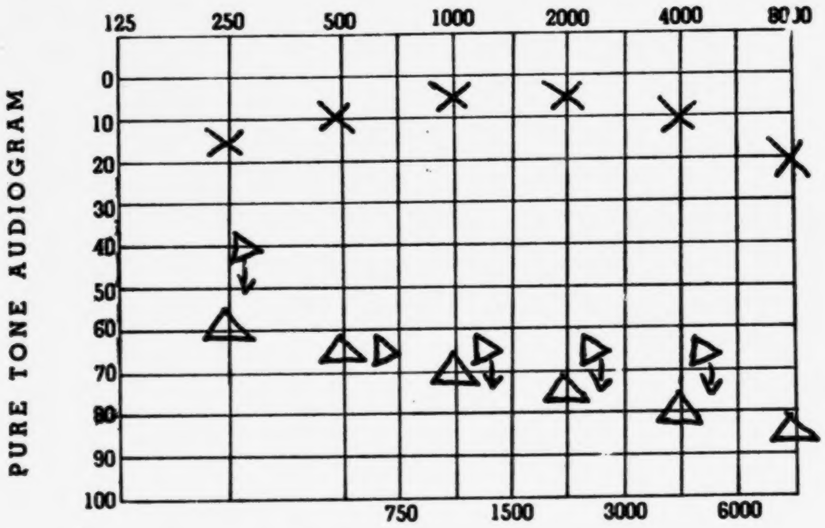
   If this impairment has existed for long, the child may experience difficulty in locating the source of sound and difficulty hearing in the presence of noise. It is possible that there has been fluctuation of hearing in the right ear from time to time.

4. Recommendations

A. Appropriate medical treatment and careful follow-up.
B. If the hearing problem of the left ear cannot be alleviated medically, hearing aid use is indicated to effect binaural function.
C. Preferential seating in the classroom.

SEVERE UNILATERAL NERVE HEARING LOSS

NAME ______ AGE ____ SEX ____ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______



AID ______
REC. ______
TONE ______ VOL. ______

CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	64dB	4dB	
PB	40%	100%	

Plate VI

1. Classification of Hearing Impairment

   A. Type - unilateral nerve impairment, right.
   B. Degree - severe loss. (Note poor discrimination and lack of good hearing by bone conduction in the right ear.)

2. Possible Medical History

   A variety of medical problems can effect this audiometric picture. At times, severe infection results from or in conjunction with an illness such as scarlet fever, measles, or mumps, or an unspecified virus.

3. Effects on Hearing Function

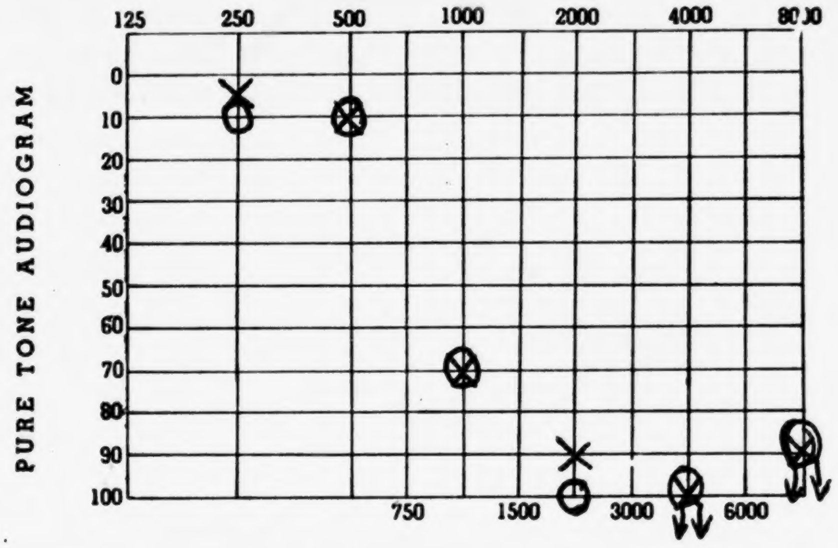
   At times, such cases as this are misunderstood, especially if inadequate masking is employed for the left ear. It is misleading because the patient responds as though there were better hearing function in the right ear. This is considered a unilateral problem. Speech and language development should be relatively good. The patient will have difficulty locating the source of sound and hearing in the presence of much background noise.

4. Recommendations

A. Preferential seating in the classroom.
B. Medical treatment and follow-up when indicated.
C. Hearing aid use may not be indicated in view of the poor discrimination score; however, the final decision regarding hearing aid use should not be made on the basis of one test. (Alternate Loudness Balance Test revealed recruitment which is consistent with a nerve loss of the right ear and poor discrimination.) One would not expect much fluctuation in this case.

SEVERE PRECIPITOUS BILATERAL SENSORINEURAL HEARING LOSS

NAME ______ AGE ______ SEX ______ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______



AID ______
REC. ______
TONE ______ VOL. ______

CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	18dB	20dB	
PB	72%	64%	

Plate VII

1. Classification of Hearing Impairment

   A. Type - bilateral precipitous sensorineural impairment.
   B. Degree - severe.

2. Possible Medical History

   Frequently this type and degree of hearing impairment is found among children who were born with various causes for it; that is, prematurity and other stress situations at birth. At times the cause is unknown. Occasionally, a very mild high frequency impairment progresses to this degree of impairment. Rarely does this type of hearing impairment improve significantly. Medical efforts need to be taken to assist in attaining the child's best level of help, hoping to effect good health and nutrition of the VIII Nerve.

3. Effects on Hearing Function

   Children born with this degree of impairment and no other complicating condition usually have their onset of speech at normal time but the clarity of the speech does not improve at the anticipated rate. When much distance is involved, it should be noted that the child does not understand what has been said to him. He frequently responds to the presence of sound without knowing what has been said. It should be remembered that this type and degree of hearing impairment allows this child to hear some of almost everything that is said but rarely all of anything, unless he is at a very close range. He learns to understand by a limited signal. This is reflected in his own articulation.

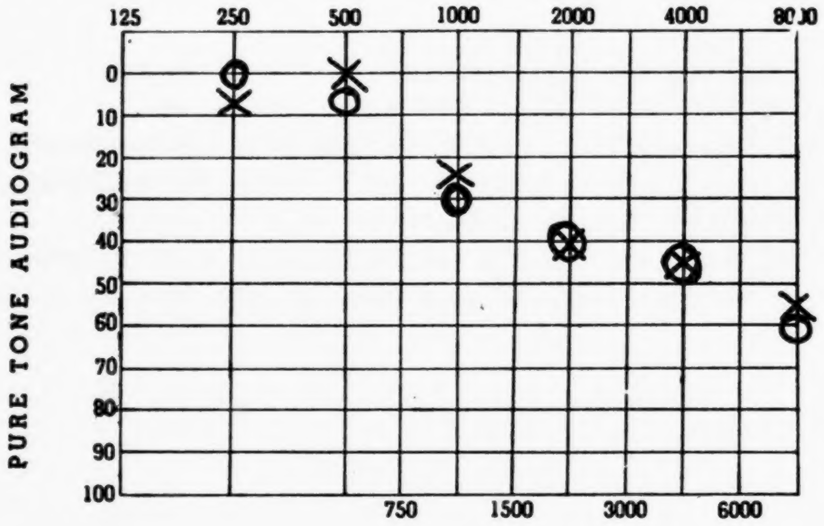
4. Recommendations

A. Continued medical follow-up and routine hearing tests.
B. Preferential seating in the classroom is imperative.
C. Speech therapy and lip-reading where indicated. Assessment of language understanding and usage should help in determining the need, especially for lip-reading.
D. A possible trial of an appropriate hearing aid, i.e.: one that suppresses the low-pitched sounds and emphasizes the mid- and high-range.

MILD BILATERAL SENSORINEURAL HEARING LOSS

NAME ______________ AGE ______ SEX ______ DATE ______
ADDRESS ______________ CLINIC ______
REFERRED BY ______________ NUMBER ______

AID ______
REC. ______
TONE ______ VOL. ______



CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	18dB	16dB	
PB	100%	100%	

Plate VIII

1. Classification of Hearing Impairment

A. Type - bilateral sensorineural impairment.
B. Degree - mild. (Note good discrimination; also note that the air conduction and bone conduction responses are at essentially the same level of intensity, indicating sensorineural impairment.)

2. Possible Medical History

The causal factors for such an impairment can be multiple and sometimes the etiology is unknown.

3. Effects on Hearing Function

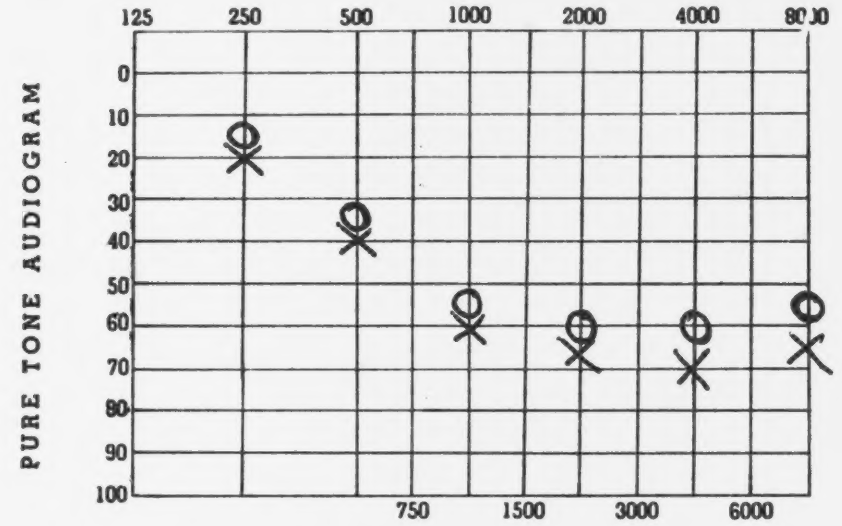
This type and degree of problem often goes unnoticed until the child is between three and five years of age and moves out of the home environment to the playground and kindergarten situations where distance is involved. Speech and language development are anticipated to be good.

4. Recommendations

A. Annual hearing assessment.
B. Preferential seating in the classroom.
C. Language and speech therapy if indicated.
D. Hearing aid use is rarely appropriate.

MODERATE BILATERAL SENSORINEURAL HEARING LOSS

NAME ______ AGE ____ SEX ____ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______



AID ______
REC. ______
TONE ______ VOL. ____

CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	45dB	50dB	
PB	100%	92%	

Plate IX

1. Classification of Hearing Impairment

A. Type - bilateral sensorineural.
B. Degree - moderate.

2. Possible Medical History

The causal factor of this type and degree of hearing impairment can be multiple - namely, familial, prematurity, RH incompatibility, and, at times, viral illnesses such as measles and scarlet fever. Rarely does medical treatment alter the degree of impairment. Occasionally, there is an added complication of some increase in hearing problem caused by a conductive loss. The conductive component may be alleviated by medical treatment.

3. Effects on Hearing Function

The child born with this degree of hearing impairment will, in all probability, have delayed speech and language development. The child will often respond to the event of a sound such as speech, people walking about, and other ambient sounds, but he will be slow to understand language and develop meaningful vocabulary understanding and, therefore, speech. Usually when he fails to develop speech at an average age, the family becomes concerned and seeks professional guidance.

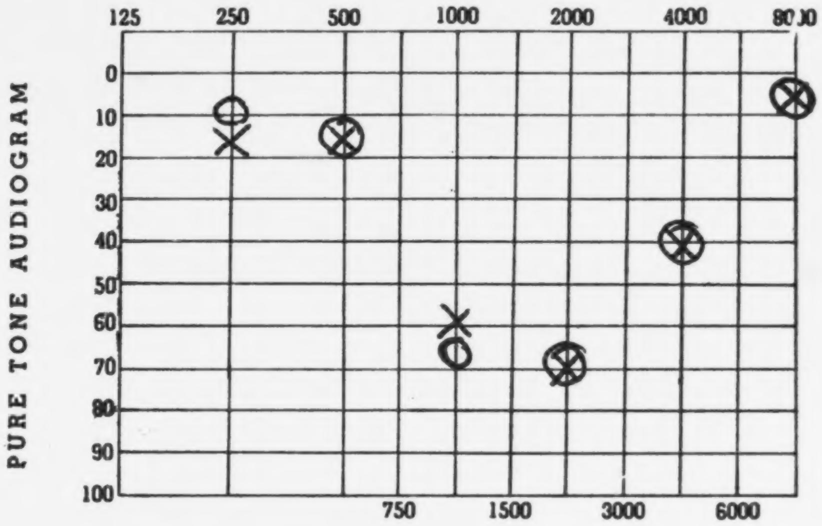
If the child has good learning potential and is started on an early program of careful language and speech stimulation, it is possible for him to achieve relatively good function of hearing, language understanding, and speech. Without a hearing aid, this loss makes understanding of speech possible only at a near range of four to six feet and then when the visual and auditory cues are combined. At times, the articulation of the speech will be noticeably affected by this degree of impairment. Ideally, the use of binaural hearing aids effects the best hearing status, and while it is not a normal hearing status, it is indeed a very useful one for the average listening situation.

4. Recommendations

A. Appropriate follow-up medically and annual hearing test.
B. The use of hearing aids (possibly binaural).
C. Preferential seating in the classroom.
D. Language and speech therapy as indicated to be carried out at school and at home.

MILD TO MODERATE BILATERAL SENSORINEURAL HEARING LOSS

NAME ____________ AGE ______ SEX ______ DATE ____________
ADDRESS ____________ CLINIC ____________
REFERRED BY ____________ NUMBER ____________



AID ____________
REC. ____________
TONE ______ VOL. ______

CC-S-82

BY ____________
AUDIOMETER ____________

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	24dB	28dB	
PB	80%	76%	

Plate X

1. Classification of Hearing Impairment

   A. Type - bilateral sensorineural impairment.
   B. Degree - mild to moderate.

2. Possible Medical History

   The specific cause of this extreme hearing impairment in terms of very good hearing for the low- and the high-pitched sounds, and relatively poor hearing for the mid-pitched sounds is not known. Some cases have been seen whose significant history related to an episode of meningitis and/or an acute illness in which the patient was comatose for a few days. Some cases appear to have been progressive and of rather slow development. As a phase in the development, the hearing impairment may be described as above. Currently, no effective medical treatment is known.

3. Effects on Hearing Function

   The audiometric picture produces a difficult hearing problem because the child will hear a part of most things and respond to the sound present, but will have difficulty understanding what has been said unless he can readily combine visual and auditory cues. Often the presence of background noise will mask out the speech to be understood. The situation of cross-conversation also becomes very confusing to understand. Rarely is a hearing aid effective because of the good hearing in the low-pitched sounds. At times such a hearing problem has an added complication of extreme limitation in ability to tolerate shifts in loudness of signal. Those observing a child with an impairment of this type are often confused, for they see a response to sound and yet find that there has been a misunderstanding in terms of interpreting what has been said. Note the discrimination score.

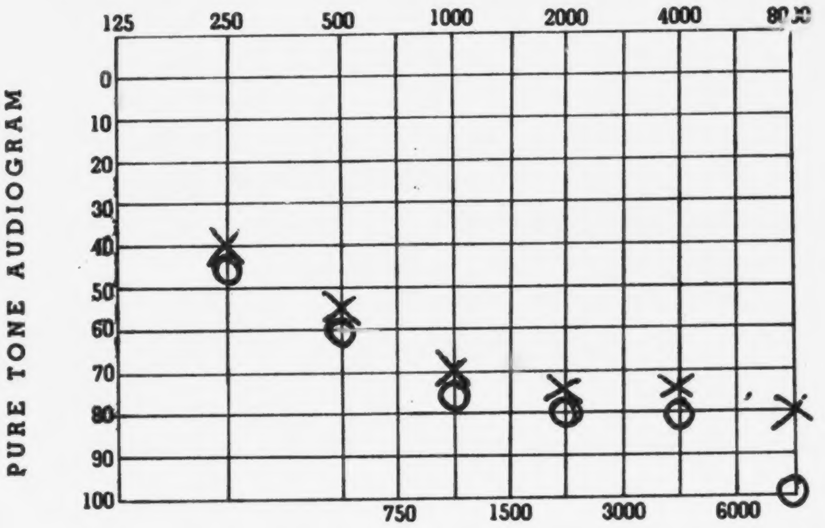
4. Recommendations

A. Careful follow-up and at least an annual hearing test.
B. Preferential seating in the classroom.
C. Hearing aid seldom indicated.
D. Speech and language help when necessary.
E. Speech-reading or lip-reading practice at a distance with some background noise and with the materials presented with a moderate amount of voice quality - this to effect a more successful functioning in a situation which is commonly difficult for the child.

SEVERE BILATERAL SENSORINEURAL HEARING LOSS

NAME ______ AGE ______ SEX ______ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______

AID ______
REC. ______
TONE ______ VOL. ______



CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

	Speech Audiometry		
	R	L	SF
SRT	60dB	56dB	
PB	80%	84%	

Plate XI

1. Classification of Hearing Impairment

   A. Type - bilateral sensorineural.
   B. Degree - severe.

2. Possible Medical History

   The causal factors of this type and degree of hearing problem are multiple and similar to those suggested for Plate IX.

3. Effect on Hearing Function

   A child with this degree of hearing impairment will function as though "deaf" unless given special help at an early age. This degree of impairment is best helped with a binaural hearing aid. Special school placement may be indicated until the child has achieved sufficient language understanding and usage to communicate independently in an average classroom situation. With good learning potential, good environmental stimulation, the use of good hearing aids, and effective help in achieving language and speech, a child may develop sufficiently to participate in a regular classroom.

   The above suggested speech-hearing function represents achievement for a child of 8 to 12 years of age. In his earlier years, he would have had difficulty in acquiring language and understanding speech sufficiently well to manage speech-hearing test items in a routine manner. The young child with this degree of impairment may first be tested by special items such as the names of colors, or spondaic numbers.

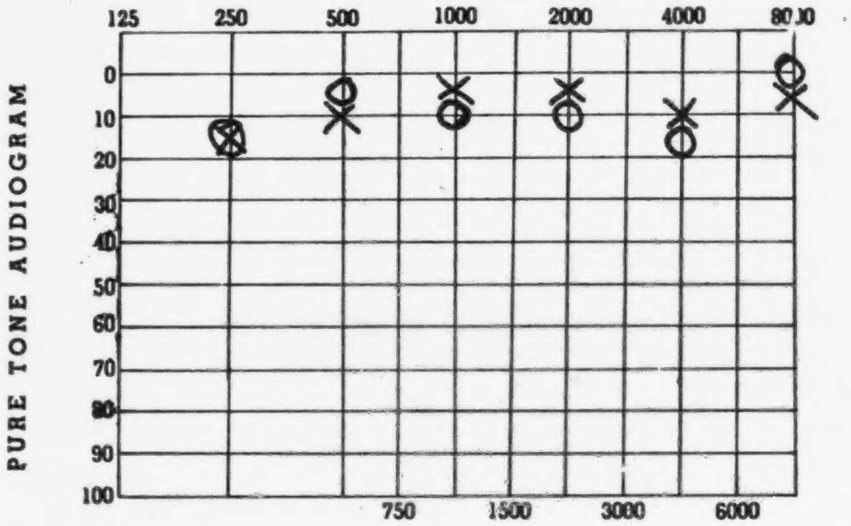
Despite a learned ability to make use of amplification and function at levels which could be considered a mild hearing impairment, and also the development of relatively good language understanding, a child with this degree of impairment will have some deviations in his speech that are indeed a reflection of what he hears and does not hear. He can develop speech which is very useful and intelligible though it does not sound perfectly normal.

4. Recommendations

A. A regular medical follow-up -- otologic examination.
B. At least an annual hearing evaluation and a check-up of the function with hearing aids.
C. Assignment to a classroom where the teacher and group will be accepting of a child with a problem.
D. Speech and language therapy as needed throughout most of the elementary school years.
E. Preferential seating in the classroom.
F. Family counseling in terms of their appropriate supportive help in developing and maintaining good communication for the child.
G. Considerations of the child's needs to maintain himself effectively with his peers.

NORMAL SENSITIVITY AND DISCRIMINATION: - LIMITATION IN AUDITORY SEQUENCING

NAME ______ AGE ____ SEX ____ DATE ______
ADDRESS ______ CLINIC ______
REFERRED BY ______ NUMBER ______



AID ______
REC. ______
TONE ______ VOL. ____

CC-S-82

BY ______
AUDIOMETER ______

		Air	Masked Air	Bone	Masked Bone	DB Intensity of Mask
LEFT EAR	BLUE	X	□	<	◁	
RIGHT EAR	RED	○	△	>	▷	

VALIDITY		
Good	Fair	Poor

Speech Audiometry	R	L	SF
SRT	4dB	0dB	
PB	96%	100%	

Plate XII

1. Classification of Hearing Impairment

   A. Type - normal hearing function regarding sensitivity and discrimination ability.
   B. Degree - no loss when compared with routine measurements, but a test of ability to manage material by auditory sequencing reveals a limitation.

2. Possible Medical History

   The medical history can appear to be non-contributory or very subtle. It can also have any number of possible factors such as reported for the previous cases. A specific causal factor is seldom known.

3. Effect on Hearing Function

   The child fails to remember immediately what has been said and thereby appears not to have heard it. He may appear inattentive. He may be able to remember only part of what was said, such as an instruction in the classroom, and thus acts inappropriately. If the child's ability to remember digits presented at one-second intervals is at a level of 3 or 4, and his ability to repeat sentence material is at the age level of a 4- or 5-year-old, he is apt to have difficulty managing average classroom instruction and other materials.

The component of difficulty in managing information by auditory sequencing can be present in conjunction with a hearing impairment measured in terms of sensitivity, such as has been described in the previous 11 cases. Each child should be tested and checked frequently for this phase of his auditory function.

4. Recommendations

Once it is known that a child has a problem in memory for auditory sequencing, the level at which he can successfully function should be determined and kept in mind as fundamental for providing many experiences. The family, teacher, and therapist can provide an increased number of opportunities for the child to function at a level where he can achieve and then gradually increase the number of items in an effort to strengthen the ability to manage things regarding memory for auditory sequencing. An example might be in terms of giving instructions. They should be presented first in small units, and then gradually increased to a point where a child could do more than small units. The confusion and failure present for children with this type of problem is a serious influence on the overall behavior in school achievement. Thus far, little work has been done to demonstrate how much improvement some of the children can make if guided carefully.

Categories of Aspects of Communicative Skills Fundamental in Developing Therapeutic Techniques

Auditory Stimulation (auditory behavior from gross responses to the more refined details of auditory function), for:

1. Detection of specific sounds
2. Discrimination of various background and/or ambient sounds
3. Recognition of phonetics, words, and phrases
4. Auditory memory span
5. Auditory memory for sequence
6. Auditory comprehension
7. Auditory comprehension in the presence of some background noise

Language Stimulation for:

1. Vocabulary
2. Understanding of various usage, that is, opportunities to recognize recall, and use
3. Language usage in expression, both spoken and written. (It is hoped that this will be reflexive.) Emphasis on idiomatic expressions and on syntax, that is, simple grammatical structure

Phonetic Foundation Fundamentals for:

1. Hearing the differences among speech sounds and combinations of speech sounds
2. Seeing (lip-reading) the differences among speech sounds
3. Recognizing the relationship of the printed symbols (reading) to the differences among speech sounds
4. Saying the speech sounds, both in isolation and in combinations

MATERIALS

Office of Education
U.S. Department of
Health, Educ. & Welfare
Washington 25, D.C.

Council for Exceptional Children
1201 Sixteenth Street, N.W.
Washington 36, D.C.

Fred Harris, Oklahoma
United States Senate
Washington, D.C.

Henry Bellmon, Oklahoma
United States Senate
Washington, D.C.

Mr. Harold J. Weber
Principal Audiologist
State Dept. of Health
Denver, Colorado

Maurice Walraven, Ed.D.,
Administrator
Special Education Section
State Dept. of Education
Oklahoma City, Okla. 73105

Erlene Downing, Supervisor
Speech and Hearing
Special Education Section
State Dept. of Education
Oklahoma City, Okla. 73105

Roy C. Rowland, Jr., Ph.D.
Unit Supervisor of Speech and
Hearing
Department of Public Welfare
Oklahoma City, Okla. 73125

Hadros Brandner
Speech and Hearing Consultant
Division of Maternal and
Child Health
State Health Department
3400 North Eastern
Oklahoma City, Okla. 73105

Superintendent of Documents
Washington, D.C. 20402

American Education Publications
Education Center
Columbus 16, Ohio

Charles E. Merrill Books, Inc.
1300 Alum Creek Drive
Columbus 16, Ohio

National Institutes of Neurological Diseases and Blindness
Bethesda, Maryland 20014

Go-Mo Products, Inc.
Waterlook, Iowa

Webster Publishing Company
1154 Reco Avenue
St. Louis 26, Missouri
(Ask for: "Webster Speech
Correction Guide".)

Stanwix House, Inc.
Pittsburg, Pennsylvania

Continental Press
2336 Farrington Street
Dallas, Texas

Alexander Graham Bell Association
for the Deaf, Inc.
1537 35th Street, N.W.
Washington, D.C.

Sonotone Corporation
Elmsford, New York

Joseph Kennedy Jr., Foundation
1411 "K" Street N.W.
Washington, D.C.

National Association for
Retarded Children
420 Lexington Avenue
New York, New York 10017

Speech Foundation of America
152 Lombardy Road
Memphis, Tennessee
(Ask for: "Stuttering Material".)

Expression Company
Box 11
Magnolia, Illinois

Speech Materials
Box 1713
Ann Arbor, Michigan

National Society for Crippled
Children and Adults
2023 West Ogden
Chicago, Illinois

American Public Health Assoc.
(Book Service)
1790 Broadway at 58th Street
New York, New York 10019

Interstate Publishers
Danville, Illinois

Department of Health, Educ.
& Welfare
Public Health Service
National Institutes of Health
Bethesda, Maryland 20014

State Department of Education
Division of Special Education
3201 Alberta Street
Columbus, Ohio 43204

Maico Hearing Aid Service
Mr. J. W. Schaefer
1210 N. Hudson
Oklahoma City, Oklahoma 73103

Maico Electronics, Inc.
21 North 3rd Street
Minneapolis, Minnesota 55401

The Volta Review
1537 Thirty-Fifth Street NW
Washington 7, D.C.

Dean M. Lierle, M.D.
University Hospital
Iowa City, Iowa

The Easter Seal Society
2023 W. Ogden Avenue
Chicago, Illinois 60612

Zenith Hearing Aid Sales Corp.
6501 West Grand Avenue
Chicago, Illinois 60635

American Cancer Society
521 West 57th
New York 17, New York
(Ask for: "Your New Voice",
Esophageal Speech--A Manual for
Teachers".)

The American Hearing Society
919-18th Street, NW
Washington, D.C. 20006

Science Research Associates
259 E. Erie Street
Chicago, Illinois 60611

American Speech & Hearing Assoc.
9030 Old Georgetown Road
Washington, D.C. 20014
(Ask for: "Information on Speech
Pathology and Audiology".)

Directors of Special Education
(Write Individual State)
Oklahoma
Indiana
Illinois
Arizona
California
Virginia, etc.

Chicago Public Schools
Minneapolis Public Schools, etc.
(Ask for: Speech Correction Manuals)

Follett Publishing Company
1010 W. Washington Blvd.
Chicago, Illinois 60607

Scott, Foresman and Company
411 Elm Street
Dallas, Texas 75202

Webster Division
McGraw-Hill Book Company
1154 Reco Avenue
St. Louis, Missouri 63126

Ideal Supply Company
Chicago 20, Illinois

Department of Speech and Hearing
Fairfax County Schools
Fairfax, Virginia 22300
(Ask for information on Hearing Program.)

Oklahoma Speech and Hearing Assoc.
P.O. Box 53217
State Capitol Station
Oklahoma City, Oklahoma 73105

Ginn and Company
2550 Hanover Street
Palo Alto, California

Harper & Row, Publishers
Pleasonton, California

Harper & Row Publishers, Inc.
49 East 33rd Street
New York, New York 10016

Allyn and Bacon, Inc.
Ralston Park
Belmont, California

Children's Music Center, Inc.
5373 West Pico Boulevard
Los Angeles 19, California

Chronicle Guidance Publications, Inc.
Moravia, New York

Word Making Productions
P. O. Box 305
Salt Lake City 10, Utah

Harcourt, Brace and World, Inc.
1855 Rollins Road
Burlingame, California

St. Joseph Institute for the Deaf
1483 Eighty Second Boulevard
St. Louis 32, Missouri

Grolier Enterprises, Inc.
575 Lexington Avenue
New York 22, New York

Primary Playhouse
Sherwood, Oregon

Miss Genieve Arnold
5926 Culmore Drive
Houston 21, Texas

Creative Playthings, Inc.
P. O. Box 1100
Princeton, New Jersey

Henington Publishing Company
Wolfe City, Texas 75496

Grade Teacher
Teachers Publishing Corp.
Darien, Connecticut

Fearon Publishers, Inc.
2165 Park Boulevard
Palo Alto, California 94306

(Bell and Howell)
Thompson Movie Supply, Inc.
1740 South Boston
Tulsa, Oklahoma

The University of Texas
Special Education Instruction
Materials Center
304 West 15th Street
Austin, Texas 78701

Field Enterprises Educational Corp.
Merchandise Plaza
Chicago 54, Illinois

Spin-A-Test Company
350 Forest Hill Avenue
Auburn, California

Educational Company
R.D. #2
Windham, Maine

Teaching Resources, Inc.
334 Boylston Street
Boston, Massachusetts 02116

Sound Materials
P.O. Box 453
Knoxville, Tennessee

Di Bur
Box 1184
Pueblo, Colorado

Milton Bradley Co.
Springfield, Illinois

Talkalong Products
Box 444
Monterey, California

Saxon Press
207 East 37th Street
New York 16, New York

John Tracy Clinic
806 W. Adams & Boulevard
Los Angeles, California 90007

Burgess Publishing Co.
426 South 6th Street
Minneapolis 15, Minnesota

TESTS

American Guidance Services, Inc.
720 Washington Avenue, S.E.
Minneapolis, Minnesota 55414

Minnesota Preschool Scale (Goodenough, Maurer & Van Wagenen)

Peabody Language Development Kit (Dunn & Smith)

Peabody Picture Vocabulary Test

Verbal Language Development Scale (Mecham)

Vineland Social Maturity Scale

* * * * * *

Bureau of Educational Research and Services
Extension Division
State University of Iowa
Iowa City, Iowa

Templin-Darley Articulation Test

* * * * * *

Consulting Psychologists Press
577 College Avenue
Palo Alto, California 94306

Marianne Frostig Developmental Test of Visual Perception

* * * * * *

Language Research Associates
300 North State Street
Box 5607
Chicago, Illinois 60610

Wepman Auditory Discrimination Test

* * * * * *

Illinois Medical Book Company
215 West Chicago Avenue
Chicago, Illinois 60610

Illinois Test of Psycholinguistic Abilities (McCarthy & Kirk)

* * * * * *

The Psychological Corporation
304 East 45th Street
New York, New York 10017

Arthur Point Scale of Performance Tests, Revised Form II

Bender Visual Motor Gestalt Test

Benton Revised Visual Retention Test

Eisenson's Examining for Aphasia (2nd Edition)

Goodenough-Harris Drawing Test

Harris Tests of Lateral Dominance

Minnesota Test for Differential Diagnosis of Aphasia (Hildred Schuell)

Vineland Social Maturity Scale, Revised (Doll)

* * * * * *

Psychological Test Specialists
Box 1441
Missoula, Montana 59801

Full-Range Picture Vocabulary Test (Ammons & Ammons)

Memory-for-Designs Test (Graham & Kendall)

Quick Test (Ammons & Ammons)

* * * * * *

Speech Materials
Box 1713
Ann Arbor, Michigan

Hejna Developmental Articulation Test (Revised, 1959)

* * * * * *

Scott, Foresman & Co.
433 E. Erie Street
Chicago 11, Illinois

Bryngelson & Glaspey Articulation Test Cards

* * * * * *

Western Psychological Services
Order Department
Box 775
Beverly Hills, California 90213

Arizona Articulation Proficiency Scale (Barker)

* * * * * *

Stanwix House, Inc.
3020 Chartlers Avenue
Pittsburgh, Pennsylvania 15204

McDonald Deep Test of Articulation

* * * * * *

The Interstate
Printers & Publishers, Inc.
Danville, Illinois 61832

Photo Articulation Test

* * * * * *

Margaret Crabtree
10133 Bassoon
Houston 25, Texas

Houston Test for Language Development

* * * * * *

Word Making Productions
Salt Lake City 10, Utah

* * * * * *

California Testing Bureau
5916 Hollywood Boulevard
Los Angeles, California

* * * * * *

Education-Industry Service
1225 60th Street
Chicago 37, Illinois

* * * * * *

The King Company
2414 West Lawrence Avenue
Chicago, Illinois 60625

PUBLIC SCHOOL SPEECH AND HEARING PROGRAMS

School Year 1969-70

SPEECH PROGRAMS:

County	School
Beaver	Cooperative Program Balko, I-75 Beaver, I-22 Forgan, I-123 Gate, D-38
Beckham	Sayre, I-31
Bryan	Durant, I-72
Caddo	Anadarko, I-13
Caddo	Apache, I-6
Cleveland	Moore, I-2
Cleveland	Norman, I-29
Comanche	Lawton, I-8
Comanche	Medicine Park, D-7
Cotton	Cooperative Program Big Pasture, I-333 Temple, I-101 Walters, I-1
Grady	Chickasha, I-1
Harmon	Hollis, I-66
Harper	Laverne, I-1
Hughes	Holdenville, I-35
Jackson	Altus, I-18
Kay	Ponca City, I-71
Kingfisher	Kingfisher County Dover, I-2 Lomega, I-3 Kingfisher, I-7 Hennessey, I-16 Big Four, D-4 Cashion, I-89 Okarche, I-105
Latimer	Wilburton, I-1
Logan	Crescent, I-2
Murray	Sulphur, I-1
Muskogee	Muskogee County Haskell, I-2 Braggs, I-46 Webbers Falls, I-6 Warner, I-74 Boynton, I-4 Hilldale, D-29 Porum, I-88
Muskogee	Muskogee, I-20
Oklahoma	Bethany, I-88
Oklahoma	Choctaw, I-4
Oklahoma	Crooked Oak, I-53
Oklahoma	Midwest City, I-52
Oklahoma	Oklahoma City, I-89
Oklahoma	Putnam City, I-1
Okmulgee	Henryetta, I-2

SPEECH PROGRAMS (con't)

County	School
Okmulgee	Okmulgee, I-1
Payne	Stillwater, I-16
Pontotoc	Byng, I-16
Pottawatomie	Shawnee, I-93
Rogers	Cooperative Program Claremore, I-1 Inola, I-5 Sequoyah, I-6 Foyil, I-7 Verdigris, D-8 Justus, D-9 Tiawah, D-11
Seminole	Wewoka, I-2
Sequoyah	Sallisaw, I-1
Stephens	Cooperative Program Comanche, I-2 Marlow, I-3 Meridian, D-48
Stephens	Duncan, I-1
Texas	Guymon, I-8
Texas	Hooker, I-23
Tulsa	Broken Arrow, I-3
Tulsa	Jenks, I-5
Tulsa	Sand Springs, I-2
Tulsa	Tulsa, I-1
Washington	Bartlesville, I-30
Washita	Burns Flat, I-7
Woodward	Woodward, I-1

DEAF AND HARD-OF-HEARING PROGRAMS

County	School
Cleveland	Moore, I-2
Grady	Chickasha, I-1
Oklahoma	Midwest City, I-52
Oklahoma	Oklahoma City, I-89
Payne	Cushing, I-67
Pottawatomie	Shawnee, I-93
Tulsa	Tulsa, I-1

PUBLIC HEALTH GUIDANCE CENTERS AND CHILD STUDY CENTERS

With Speech Facilities

REGIONAL GUIDANCE CENTER I

305 East Chadick
McAlester, Oklahoma 74501 (918) GA 3-4254

Counties: Pittsburg, Hughes, McIntosh, Haskell, LeFlore, Latimer

Speech Pathologist Consultant: Josef Sanders, M.C.D.
Audiological Consultant: James Embrey, M.A.
Speech Clinician: Deanna K. Williams

REGIONAL GUIDANCE CENTER II

530 South 34th Street
P. O. Box 1548
Muskogee, Oklahoma 74401 (918) MU 7-4456

Counties: Muskogee, Okmulgee, Wagoner, Cherokee, Adair, Sequoyah

Speech Pathologist Consultant: Donna Engelbrecht, M.A.

REGIONAL GUIDANCE CENTER III

(No Speech Facilities Available)

REGIONAL GUIDANCE CENTER IV

(No Speech Facilities Available)

REGIONAL GUIDANCE CENTER V

317 American Building
P. O. Box 1487
Shawnee, Oklahoma 74801 (405) BR 3-2157

Counties: Pottawatomie, Seminole, Okfuskee, Lincoln

Speech Pathologist: Judith Ann Harbison, M.S.

Seminole County Guidance Center

Market Square Building
Seminole, Oklahoma 74868 (405) EV 2-4369

Speech Pathologist: Judith Ann Harbison, M.S.

REGIONAL GUIDANCE CENTER VI

1010 South Sheridan Road
Lawton, Oklahoma 73501 (405) EL 3-2735

Counties: Comanche, Caddo, Grady, Stephens, Jefferson, Cotton

Speech Pathologist: Carol Grasha, M.A.
Audiological Consultant and Speech Pathologist: Sharon Reifsnider, M.A.

Stephens County Guidance Center

1400 Bois d'arc
P. O. Box 308
Duncan, Oklahoma 73533 (405) AL 5-3033

Speech Pathologist: Carol Grasha, M.A.

COMMUNITY GUIDANCE CENTERS

Cleveland County Guidance Center

641 East Robinson (405) JE 4-4048
Norman, Oklahoma 73069 SW 4-5223 (Direct Line to Okla. County)

Speech Pathologist: Jean Ritterman, M.A.
Speech Pathologist: Ruth Eggner, M.C.D.

Creek County Guidance Center

P. O. Box 618
Sapulpa, Oklahoma 74066 (918) BA 4-5531

Speech and Hearing Consultant: June Eckes, M.C.D.

Garfield County Guidance Center

2109 Lahoma Road
P. O. Box 3266
Enid, Oklahoma 73701 (405) 233-0650

Speech and Hearing Consultant: Thayne Hedges, Ph.D.

Payne County Guidance Center

7th and Walnut Streets
P. O. Box 471
Stillwater, Oklahoma 74074 (405) FR 2-1979

Speech Pathologist: Carol Headrick, M.C.D.

REGIONAL GUIDANCE CENTER VII AND BI-STATE COMPREHENSIVE MENTAL HEALTH CENTER

P. O. Box 951
Ponca City, Oklahoma 74601 (405) RO 2-6627

Counties: Kay, Grant, Noble, Osage, and Cowley County, Kansas

Speech and Hearing Consultant:	Paul Hill, M.A.
Speech Pathologist:	Dwayne Lizar, M.A.

TULSA CITY-COUNTY HEALTH DEPARTMENT PRESCHOOL SCREENING PROGRAM

4616 East 15th Street
Tulsa, Oklahoma 74112 (918) WE 9-2671

Speech and Hearing Consultant:	Josef Sanders, M.C.D.

CHILD STUDY CLINIC

4818 South Lewis Avenue
P. O. Box 7352
Tulsa, Oklahoma 74105 (918) 749-2282

Speech Pathologist:	Donna Engelbrecht, M.A.
Speech Consultant:	Janice Fonkalsrud, M.A.

V

APPENDIX

SPEECH OR HEARING REFERRAL

REFERRAL

Name of Child ______________________________ Grade ________
last first

Date of Referral ____________ School ____________ Room No. ________

Reason(s) for Referral ______________________________

____

____

____

____

____

Referred by ______________________________
signature title

EVALUATION

Name of Child ______________________________ Grade ________
last first

Date of Evaluation ____________ School ____________ Room No. ________

Referred by ______________________ Date of Referral ____________

Reason(s) for Referral ______________________________

____

____

Findings ______________________________

____

____

____

Disposition ______________________________

Evaluated by ______________________________
signature title

CASE HISTORY

Date ____________________

I. IDENTIFICATION

Name of child ______________________________ Age ______ Birthdate __________

Address of child ______________________________ City ____________________

County ____________________ State ____________________ Telephone __________

Name of person giving information ____

Address ________________________ City and State ____________________________

Telephone ____________________ Relationship to child ________________________

II. DESCRIPTION OF SPEECH PROBLEM

Describe briefly the nature of the speech problem ____________________________

____

____

Do you suspect a hearing loss? __________ If yes, why? ______________________

____

Do you suspect some physical cause for the speech problem? ____________________

If yes, describe ____

____

III. DEVELOPMENT

Where was the child born? ____

Was he born in a hospital or at home? ____________________ Was a physician present? __________

Birth weight __________ Full term? __________ If no, how much premature? __________

Normal delivery? __________ If no, describe ____________________________________

____

Were instruments used? ________________________ Was there evidence of injury, weakness,

or poor health at birth? __________ If yes, describe __________________________

____

Was the child ever a feeding problem? __________ If yes, describe ______________

____

Has he increased in height and weight normally? ____________________ At what age did teething first occur? ____________________ At what age did he sit up alone? ____________________

When did he begin creeping or crawling? ____________________ When did he begin walking unaided? __________ Does the child seem to have normal coordination for his age? ____________________

Is he right or left handed? ____________ Is he strongly right or left handed? ____________________

Has his handedness ever been influenced? ____________ Did the child engage in vocal play, that is babble and coo during infancy? ____________________ At what age did he begin using single words meaningfully? ____________ What was the age for short sentences? ____________________

Does he seem to understand speech adequately? ____________________________________

Does he use words meaningfully? ____________________________________

IV. GENERAL BEHAVIOR

Does the child have ample opportunity to play with children? ____________________

His own age? ____________________ How many? ____________________ Does he like to play with children or would he rather play alone? ____________________ At what age did he start feeding himself? ____________________ Dressing himself? ____________________

At what age was he toilet trained? ____________________ Does the child eat well? ____________

Does he eat too much or too often? ____________________ Does he sleep well? ____________

Does he have wakefulness or night terrors? ____________________________________

Does he want to sleep with parents? ____________________ Does he wet the bed? ____________

How often? ____________________ Does he respond well to people? ____________________

Withdraw frequently into a "world of his own?" ____________________ Warm up to a situation after an initial period of adjustment? ____________________ Does he seem unusually shy? ____________

Has the child ever been observed staring vacantly at lights or inanimate objects? ____________

Does he seem to get more pleasure from objects than people? ____________________

Is he unusually bothered by dirt, spots on clothes, etc.? ____________________

Does he manipulate his genitals excessively? ____________________ Is he extremely active or restless? ____________________ Annoyed by loud sounds? ____________________

Does he display temper tantrums? ____________________________________

V. MEDICAL HISTORY

Please circle the diseases he has had, list the age, indicate whether mild, moderate, or severe, and list any after effects:

Disease	Age	Severity	After Effects
Measles			
Whooping Cough			
Scarlet Fever			
Mumps			
Pneumonia			
Diphtheria			
Chicken Pox			
Polio			
Other			

List injuries:	Age	Severity	After Effects

List operations and ages for each:

Has the child ever had convulsions? ______________ How many? __________

Were they severe? __________ At what age did these convulsions begin? __________

At what age did these convulsions cease? ______________

Did the child's doctor diagnose these convulsions? __________ If yes, describe __________

Has the child ever had draining ears? __________ When? __________

Does he have any known allergies? __________ If yes, describe briefly __________

Does he suffer lingering colds? ______

Who is the child's physician? ______ Address ______

Have you discussed the speech problem with this doctor? ______

What was the recommendation? ______

Who recommended that you bring the child to the Speech and Hearing Clinic? ______

______

VI. SCHOOL HISTORY

At what age did he enter grade one? ______ Did he attend kindergarten? ______

Present grade? ______ Are there any subjects that are especially difficult for him? ______ What? ______

Has he been a serious behavior problem any time at school? ______

What type of trouble? ______

Where does he attend school? ______ Who is his teacher? ______

Has the child's attendance been regular? ______ How many schools has he attended? ______

Has he received any special work on speech or hearing in the school? ______

If yes, who was his therapist? ______ At what school? ______

When? ______ Was this therapy successful? ______

VII. HOME

Father's name ______ Age ______

Occupation ______

Mother's name ______ Age ______

Occupation ______

Brothers' names and ages ______

______

Sisters' names and ages ______

______

Are there other relatives or friends living permanently or indefinitely in the home? ______

______

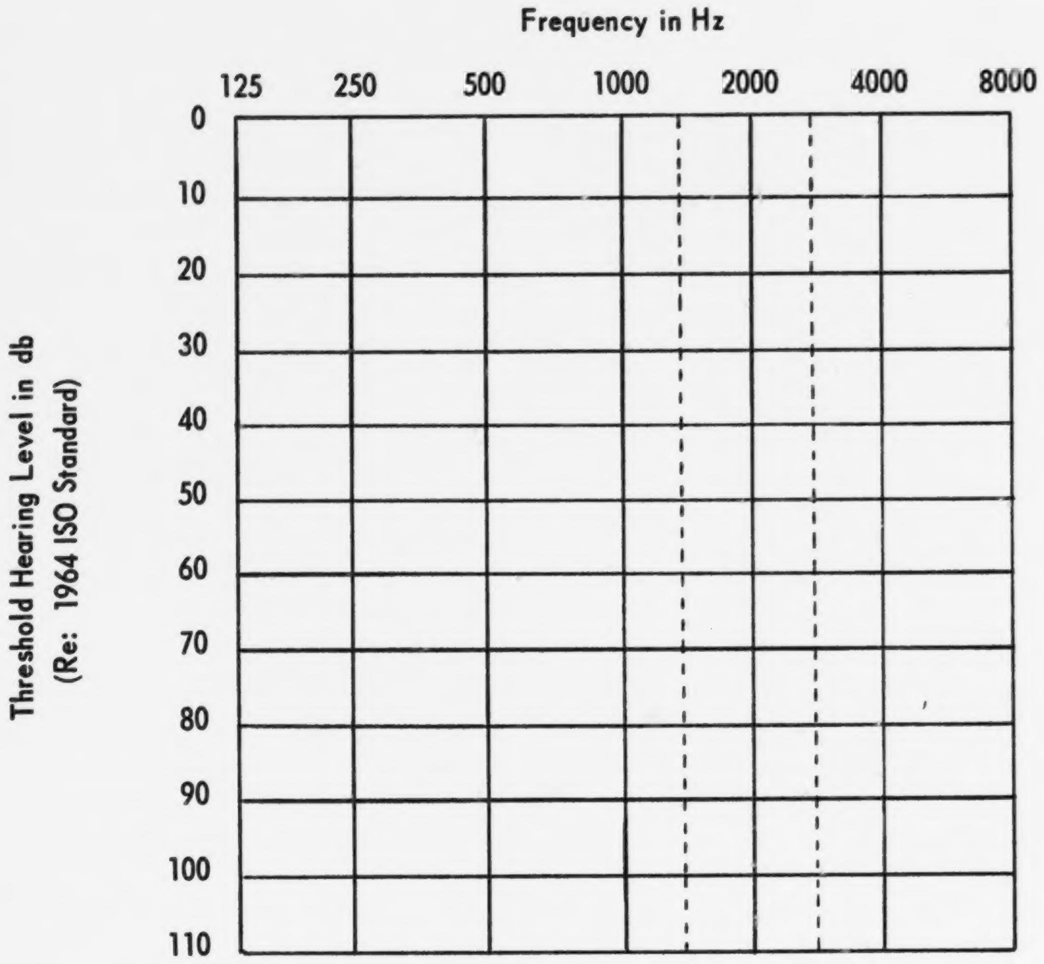
Is there a history of a speech or hearing problem in the family? ______ If yes, describe. ______

______

AUDIOGRAM FORM

Name ______________________________ Age ______ Sex ______ Date ______________________

Audiologist ______________________________ Audiometer ______________ Reliability ______________



EAR	PTA	SRT	PB	SL
Right				
Left				

Symbols

Ear

Rt.	0	[
Lt.	X	]

↓ = No Response

Effective Masking

Masked Ear	R	L	R	L	R	L	R	L	R	L
AC										
BC										

COMMENTS:

SPEECH ANALYSIS

Name: ______________________ Age: ________ Birth Date: ______________________

Address: ______________________ Examiner: ______________________

Date: ______________________

	3½					4½							5½		6½						7½					
	p	b	m	h	w	t	d	n	j	k	g	ɣ	f	v	ʃ	z	tʃ	dz	ʒ	l	s	z	ʍ	r	θ	Blends
Initial																										
Medical																										
Final																										
Stimulation																										

1. OK
2. Slightly
3. Severly Distorted

– Omission
Substitutions – Enter Symbol

SPEECH MECHANISM:

Lips ______________________

Teeth ______________________

Tongue ______________________

Palate ______________________

Nasal Passages ______________________

VOICE:

Quality ______________________

Loudness ______________________

Pitch ______________________

Intelligibility:

Comments:

SPEECH THERAPY RECORD

Name ______________________________

Address ____________________ **Phone No.** __________ **Birthdate** __________

RECORD OF ENROLLMENT FOR SPEECH CORRECTION

School	Date Begun	Date Ended	Why Ended	Comments

HEARING TESTS

Date	Air. Cond.	Bone Cond.	Recommendations

CONFERENCES

Date	Person	Comments

SPEECH EXAMINATION

GENERAL OBSERVATION OF SPEECH	ARTICULATION	EVALUATIONS	DATE
Fluency			
Language Level			
Intelligibility			
Voice			
Organic Deviations			
Muscular Coordination			
Speech Mechanism			
Body as a Whole			
General Health			
Estimated Intelligence			

CASE HISTORY

FATHER:	SIBLINGS NAME	YEAR BORN	SPEECH	OTHER
Occupation	1.			
Speech	2.			
Other	3.			
	4.			
MOTHER:	5.			
Occupation				
Speech				
Other				

Home Conditions ______________________________

History of Speech Development ______________________________

BEHAVIORAL

Pupil Attitude Toward Problem ______________________________

Parent Attitude Toward Problem ______________________________

Teacher's Description of Behavior ______________________________

COMMENTS

(Please enter date and initial)

SPEECH SCREENING RECORD

SCHOOL ______________________ SCREENED BY ______________________ DATE ______________

Name	Age	Grade	Teacher	Comments (Record articulation errors)	T	WL	R-E	D

(Used in the initial screening of schools. Record only those children with speech difficulties and check in the appropriate box.)

T = put child in therapy. WL = put child on waiting list. R-E = re-evaluate at a later date. D = deferred.

Record Card for School Files

INDIVIDUAL SPEECH DIAGNOSTIC RECORD

Pupil Number ____________ School ______________________________ Grade ____________

Name ______________________ Address ______________________ Phone ____________

Birth Date ______________ Parent's Name ______________________________

Therapist ______________ Test Date ______________ Service Started ______________

Comments: (Date and initial all notations.) ______________________________

____

____

____

____

____

____

____

Service Terminated: (Date) ______________ Reason: ______________________

____

PARENTAL NOTIFICATION AND CONSENT FORM

Dear Parent:

A speech test has been given your child this year as part of the speech therapy service offered in the Shawnee Public Schools. The test was designed to measure the child's speech development and to determine if he or she is using sounds correctly, if he is speaking clearly enough to be understood and if his speech shows repetitions or pauses which detract from what he is saying.

As a result of our findings, ______________________________
Child's Name

has been enrolled in speech therapy. ______________________________
Speech Therapist

Please return.

____
Parent Signature

PARENTAL NOTIFICATION AND CONSENT FORM

Date: ____________________

Dear Mr. and Mrs. ____________________ :

As you know, speech therapy is offered in the ____________ Schools for children with moderate to severe communication problems. During the speech screening this year it has been found that your child would profit from work with a speech therapist. At your request the service will be made available for your child during school hours without an additional fee.

There will be a trial period of diagnostic therapy to verify the results of the first tests. If you wish to confer with the speech therapist regarding ____________ speech please call the school and make an appointment.

In order that your child may begin therapy, please sign below and return this form to the school.

Sincerely yours,

____
Speech Therapist

____
Principal

- -

I give my permission for ____________________

to receive speech therapy service.

LESSON PLAN

Therapist ______________________ Date ____________ Time ______________

Student ______________________ Age ________ Type ______________________

Longview Aim:

Immediate Aim:

Techniques:

Materials Needed:

Assignments:

Evaluation of Procedures:

INVITATION TO VISIT

Date ____________________

Dear ______________________________

As you know ________________________________ has been receiving speech therapy. We would like to talk with you about the work. On Friday, October 10, several of the mothers are coming to school for conferences. Could we schedule you for 1:15 to 1:35? Kindly let us know.

Sincerely,

____
Speech Therapist

- -

PARENT'S REPLY

____________ I shall come for a conference with the speech correctionist on:

______________ , ______________ at ______________
Date Day Time

____________ It is impossible for me to come on this date.. I shall plan to come at a later date.

__________________________ ______________
Parent's Signature Phone Number

SPEECH THERAPY PARENT CONFERENCE LETTER

SCHOOL ______________________________ DATE ____________________

Dear ____________________:

There will be no speech correction classes on the afternoons of Parent Conference dates:

A conference with the speech therapist is one of the best means of understanding your child's progress in speech correction. I shall be at your school on ____________ ________________ for Parent Conferences and would like to talk with you.

Please fill out the bottom portion of this letter and return it to school with your child. Thank you for your cooperation.

Sincerely yours,

____
Speech Therapist

____
Principal

PARENT'S REPLY

________ I shall come for a conference with the speech therapist on:

____________, ____________ at ____________
Date Day Time

________ It is impossible for me to come on this date. I shall plan to come at a later date.

________________________ ________________________
Parent's Signature Phone Number

RECORD OF CONFERENCE

Date: ______________________ Name: ______________________

Name of Contact: ______________________ Type of Conference: ______________________

Therapist: ______________________

Suggestions:

CONFERENCE RECORD

Name of Child ______________________ Grade ______________________

School ______________________ Date ______________________

Teacher ______________________ Speech Therapist ______________________

Participants ____

Summary of Discussion:

Date ______________________

School ______________________

Name ______________________

REPORTS OF CONFERENCES

This form is to be used for all conferences concerning the pupil; conferences with the parents, teachers, doctor, school nurse, guidance counselor, team, and/or related personnel.

The report should include: participants, speech therapist, pupil's age and grade, setting, purpose of conference, recommendations, or outcome.

____

Speech Therapist

(Use reverse side and attach additional sheets if necessary)

PROGRESS REPORT

PUPIL ______________________ GRADE ________ DATE ______________

Pupil's opinion about
his/her speech:
Other comments:

A. 1. I have improved a lot.
2. I have improved a little.
3. I have not made any improvement.

B. 1. I do not need any more help.
2. I need some more help.
3. I need a lot more help.

Speech Therapist's Comments: ______________________________

____

____

____

____
Speech Therapist's Signature

Classroom Teacher's Comments: ______________________________

____

____

____

____
Classroom Teacher's Signature

Parent's Comments: ______________________________

____

____

____

____
Parent's Signature

PROGRESS REPORT

NAME ______________________________ GRADE ______________

SCHOOL ______________________________ REPORT TO ______________

TYPE OF SERVICE ______________________________

DATE OF REPORT ______________________________ PERIOD COVERED ______________

Objectives:

Observed Changes:

Current Diagnosis:

Recommendations:

Continue Service: ______ Yes ______ No ______ Recheck ______ Other

____
Specialist

SPEECH THERAPY PROGRESS REPORT TO PARENTS

REPORT TO PARENTS
SPEECH THERAPY INSTITUTION

______________________ Last Name

______________________ First Name

__________ Grade Level

______________________ Speech Therapist

______________________ Teacher

______________________ Date

Speech Therapy Instruction is being directed toward a correction and/or improvement of the following:

MARKING KEY

G	Good
S	Satisfactory
NI......	Needs Improvement

	1st Report	2nd Report
ATTENDANCE		
ACHIEVEMENT		
ATTITUDE		

______________________ Parent's Signature

REPORT TO PARENTS

Letter Concerning Enrollment In New Program

Dear ______________________

As you know, the__________Schools are offering speech correction services. This is a program to help children overcome speech problems. You will hear more about this at the first P. T. A. meeting.

In our survey we found that ________________'s speech needed some correction. She has been scheduled for help on ____________________ and ____________________ from ________ to ________.

We want to have a conference with you and are now in the process of arranging dates on which we can see the mothers. It may be a few weeks before we can schedule your visit. In the meantime, if you wish to talk to us, please call EN 7-7443. We are reached most easily on Friday afternoon.

Sincerely,

____
Speech Therapist

TERMINATION OF THERAPY FORMS

Termination of Speech Therapy

To: ____

Name: ____

Grade and Section: ______________________ Date: ______________

Remarks: ____

____

____

____

Therapist: ______________________ Principal: ______________________

Termination of Speech Therapy

Dear Mr. and Mrs. ______________:

______________________ has now completed a period of speech therapy and has been dismissed. The following is a summary of his progress:

It is recommended that ______________________ be rechecked at a later date.

______________________ Principal

______________________ Speech & Hearing Therapist

FOLLOW-UP REPORT

Pupil's Name ______________________________
Last First

Date ______________________________

Sending School ______________ Therapist ______________

Receiving School ______________________________

Type of Problem ______________________________

Presently Working With ______________________________
(sound or disorder)

Remarks:

SPEECH THERAPY FOLLOW-UP REPORT

Name ______________________ Sex __________ Age ______

School ______________________________

Teacher ______________________ Grade __________

DIAGNOSIS

Sounds Completed	I	M	F	Sound Working With	I	M	F	Sounds To Be Corrected	I	M	F

______________ SCHOOL DISTRICT
HEARING TEST FOLLOW-UP RECORD

School ______________________________

Date ______________________________

Tested By: ______________________________

____

Grade	Screening	RETESTING			HEARING LOSSES		REFERRALS	
		Initial	Previous Cases	Total	Failed Initial Retest	Previous Cases Failed	Medical	Other
Totals								

NAMES OF STUDENTS WITH HEARING LOSSES (Column D)

Grade	Room	Name	Testing Results (*See Key)		Recommendations & Comments
			Right	Left	

*Key: Testing Results

N - Normal Hearing

1. Borderline - Should be rechecked yearly so as to be apprised of any change.
2. Mild high frequency loss - Not affecting the speech range (500, 1000 or 2000 cps.). Should be rechecked yearly.
3. Moderate to severe loss in high frequencies only. Not affecting speech range. May affect articulation. Recheck yearly.
4. Moderate to severe loss affecting the speech range (loss of 40 db, or more, in frequencies of 500, 1000 or 2000 cps).
   Can affect to varying degrees academic performance, social/emotional adjustment, and/or speech/language skills. Needs special attention.

PHYSICIAN REFERRAL FORM

Medical Referral For Ear, Nose & Throat Examination

NAME ______________ SCHOOL ____________ GRADE ____ ROOM ____ DATE ____________

PARENT ____________________ ADDRESS ________________ PHONE __________

Dear Parents:

During a recent school wide hearing screening test at our school, your child appeared to have some difficulty with his/her hearing. We suggest that you take your child to be seen by an Ear, Nose and Throat Physician. BE SURE TO HAVE THE PHYSICIAN FILL IN THIS FORM WITH HIS FINDINGS AND RECOMMENDATIONS, and return it to the Department of School Health Services. This will help us to adjust the school programs to the child's individual needs, if necessary.

Sincerely,

____________________ Principal

Dear Doctor:

Below please find the results of the audiometric examination given this child at his school. We have suggested that a more complete otological examination is indicated. We will appreciate a report of your findings.

	500	1000	2000	3000	4000	6000	8000	
0								0
10								10
20								20
30								30
40								40
50								50
60								60
70								70
80								80
90								90
100								100
110								110

First Test ____ Retest ____ Audiometer Used __________

Test Conditions - Quiet ____ Mod. Quiet ____ Noisy ________

Reliability: Good ______ Fair ______ Poor ________

Masking Levels:		500	1000	2000	4000
	Bone				
Right (Testing left)	Air				
	Bone				
Left (Testing right)	Air				

Comments: ______________________________

Sincerely,

Speech & Hearing Dept __________ District

MEDICAL FINDINGS

Diagnosis:

Therapy Instituted:

Prognosis:

Recommendations:

Date ______________ ____________________ M. D.

END OF SEMESTER REPORT

Name of Case: ______________________ Age of Child: ______________

Name of Therapist: ______________________ Date of Report: ______________

DIAGNOSIS:

(Describe speech and, or language problem; results of tests, i.e. hearing, intelligence, language, articulation, etc.; give pertinent background information, i.e. speech and language, parental, developmental, medical, environmental, behavioral, and educational; describe appearance and general behavior of child, and observations resulting from experience with child.)

THERAPY:

(Attendance; attitude of case; attitude of parents; goals outlined for therapy; what was done to accomplish these goals; list goals that were accomplished and progress the case made; give problems remaining.)

DISPOSITION:

(Case dismissed, or is continued therapy recommended, recommendations for therapy for the next therapist, etc.)

SPEECH THERAPY CUMULATIVE ANNUAL REPORT

____ (School)

____________________ (School year covered by report)

I. SCHEDULE AND CASE LOAD INFORMATION:

A. Number students receiving speech as of October 1 of the current school year.............. ________

B. Number students transferring from this school during school year.......................... ________

C. Number students withdrawn for reasons other than transfer during school year............. ________

D. Number students adequately corrected and dropped during school year.................... ________

E. Total number students terminating speech during school year (B+C+D=E)............... ________

F. Number new students enrolled during school year.. ________

G. Total number students receiving speech at end of year (A+F−E=G)...................... ________

II. SCREENING AND TESTING INFORMATION:

A. Number speech diagnoses administered during school year................................ ________

B. Number students screened for speech grade levels.. ________

C. Students being maintained on waiting list at end of school year .... ________

III. ANALYSIS OF SPEECH HANDICAPS: (Denote numbers of students with each of the following types of speech handicaps as of the end of the school year)

A. Articulation .... ________ C. Voice.......................... ________

B. Fluency .... ________ D. Other .... ________

IV. OTHER INFORMATION PERTINENT TO CASE LOAD:

A. Number kindergarten students having received speech or language stimulation............. ________

B. Number first grade students having received speech or language stimulation .... ________

C. Number special education students having received speech or language stimulation........ ________

V. MISCELLANEOUS INFORMATION:

A. Number students referred to other agencies (exclusive of hearing difficulties) during school year .... ________

B. Number parent conferences held during school year....................................... ________

VI. PROBLEMS ENCOUNTERED DURING THE YEAR:

VII. SUPPLIES, EQUIPMENT, OR MATERIAL NEEDED (Also list any equipment needing repair.):

VIII. SUGGESTIONS FOR PROGRAM IMPROVEMENT:

____
(Speech Therapist's Signature)

____
(Date Report Submitted)

End of Year Report

END OF YEAR DISPOSITION
FOR CHILDREN RECEIVING SPEECH OR HEARING SERVICE

School ______________________ Date ____________ Specialist ______________________

NAME OF CHILD (last) (first)	Grade	HEARING			SPEECH					
		Continue	Other	Remark	Continue	Dismissed Satisfactory	Dismissed Other	Recheck	Disorder (See Code)	Remark
Totals										

Disorder Code: Hearing Handicapped (HH); Articulation (A); Cleft Palate (CLP); Cerebral Palsy (CP); Stuttering (S); Voice (V); Other (O)

End of Year Report

STATISTICAL SUMMARY

Area Served ______________________________

Period From ______________ to ______________ 19 ______

Total School Enrollment in Areas Served ______________________________

	SPEECH	HEARING
TOTAL NUMBER OF STUDENTS EVALUATED		
Number evaluated as a result of previously known problems		
Number evaluated as a result of referral		
Number evaluated as a result of screening		
Identify grades screened		
TOTAL NUMBER OF STUDENTS RECEIVING SERVICE		
Regularly scheduled service		
Intermittently scheduled service		
Indirect service		
Other		
TOTAL NUMBER OF STUDENTS ON WAITING LIST		
TOTAL NUMBER OF CONFERENCES		
TOTAL NUMBER OF OBSERVATIONS		
DISPOSITION OF STUDENTS RECEIVING SERVICE		
Continue		
Dismissed as satisfactory		
Dismissed for other reasons		
Other		

DISTRIBUTION OF STUDENTS RECEIVING SPEECH SERVICES

	Grades 1-6	Grades 7-12	Ungraded
Articulation			
Cleft Palate			
Cerebral Palsy			
Hearing			
Stuttering			
Voice			
Other			

Summary Submitted By ______________________________ Date ______________